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in an isotonic dextrose solution containing cetyl trimethyl ammonium acetate as a solubilizing and stabilizing agent.

"Gluco-Thricil" is bacteriologically assayed to ensure full germicidal activity.

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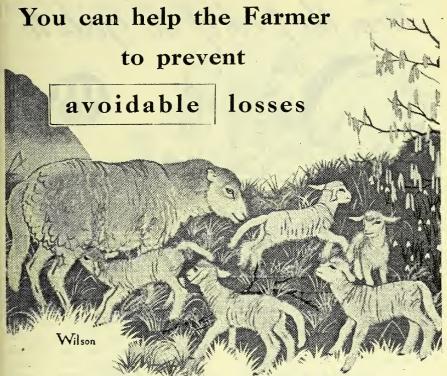
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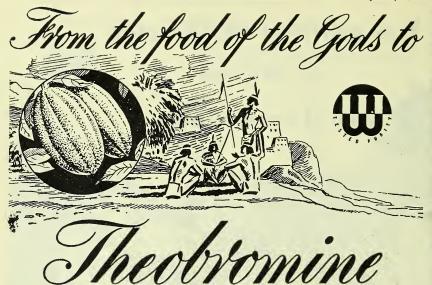
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41///					
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	Retail	Wholesale			
Containers of 50 c.c.	12/- ea.	96/- doz.			
Containers of 100 c.c.	22/6 "	180/- "			
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Lancet 1944, ii, 118.

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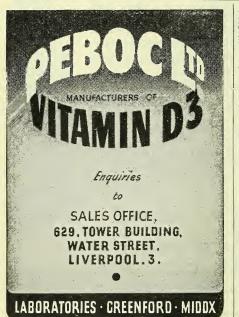
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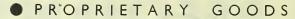
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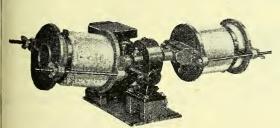


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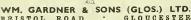
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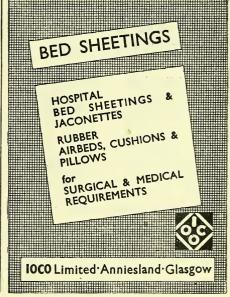
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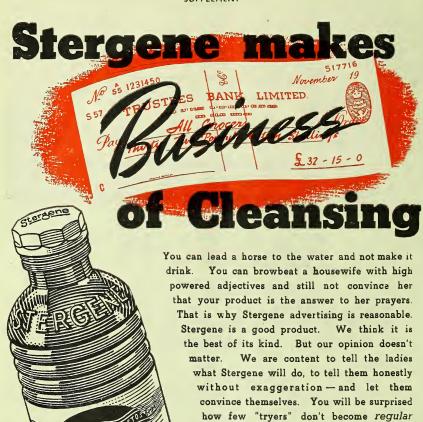
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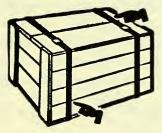
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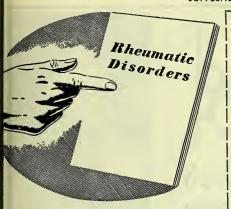


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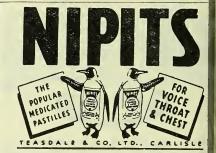




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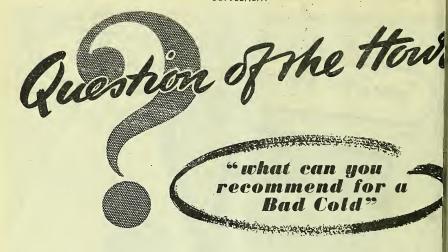
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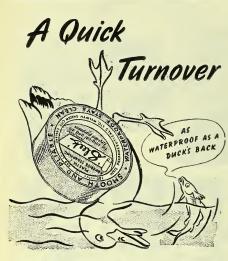
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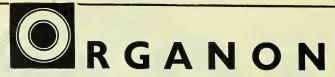
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AGENTS THROUGHOUT THE BRITISH EMPIRE AND MOST OVERSEAS TERRITORIES

CHEMIST AND DRUGGIST

for RETAILER — WHOLESALER — MANUFACTURER

JANUARY 1, 1949

Published weekly at 28 Essex Street, Strand, London, W.C.2

Telephone: Central 6565 (10 lines). Telegrams: "Chemicus, Estrand, London." ngle copies 1/- each. Annual subscription, which includes The Chemist and Druggist Diary and Year Book, 30/-

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NEWS OF THE WEEK

Buckwheat Decontrolled. — Control over the sowing and growing of a number of seeds including buckwheat has been revoked by S.I., 1948, No. 2689, which came nto operation on December 20, 1948.

Parcels by Passenger Train.—The Minster of Transport has made an Order (S.I., 1948. No. 2699), effective from January 1, permitting packages exceeding 1 cwt. in weight to be conveyed by passenger train.

Imports of Fruit Juices.—The Ministry of Food announces that arrangements have been made in agreement with the Board of Trade for the bulk importation under specific licence during 1949 of soft fruit juices from Australia and of citrus fruit juices from Australia and Sicily.

Export Targets for Brushes.—Export targets for the brush industry in 1949 have been set to reach £250,000 a month by December, compared with the December 1948 target of £350,000 a month. Targets for toilet brushes are: Tooth, 27½ per cent. of total output value; shaving, 35 per cent.; hair (and other toilet brushes) 27½ per cent.

Doctors Ask for Pay Increase.—A deputation from the Medical Practitioners' Union has asked the Minister of Health to raise the capitation fee for National Health Service patients from 18s. to 30s. for the first 2,000 patients on a doctor's list, with 20s. for each additional patient.

Camera Replicas on Show.—A group of employees of Kodak, Ltd., Harrow, has constructed replicas of the cameras used by Fox Talbot in his pioneer work in photography. The replicas are on view for a period at the headquarters in London of the Royal Photographic Society before dispatch to America to be exhibited permanently in a new photographic museum set up at the former residence of Mr. George Eastman (Eastman Kodak Co.) at Rochester, N.Y.

1949 Production Census.—The Census of Production (1949) (Returns and Exempted Persons) Order, 1948, which came into operation on December 31, 1948, prescribes the matters about which returns may be required for purposes of the Census of Production to be taken early in

1949. Certain undertakings are exempted from having to furnish for the census information that they already supply to the Ministry of Fuel and Power.

Industrial Design Exhibitions. — The Council of Industrial Design is holding an exhibition of visual aids, intended to foster appreciation of good design, at the Murray House Exhibition Hall, Vandon Passage, Petty France, London, S.W.I, January 3-29. Exhibits are to include films and film strips, wall cards, photographs, etc.; all of which may be bought, hired or borrowed by club organisers, retail trade staff training officers, etc. "Design Fair," an exhibition intended to interest the public in good design, is to be shown for the first time in London at the Whitechapel Art Gallery, E.1, January 3-29.

Token Import Scheme, 1949. - The Board of Trade announces that the Token Import Scheme in 1949 will continue on the same basis as in 1948. The Token Import annual quota will remain 20 per cent. by value of the individual manufacturer's average trade in 1936-38 with the United Kingdom in the commodity concerned. Countries taking part in the scheme will be Australia, Belgium and Luxembourg, Canada, Denmark, Finland, France, Holland, India, Italy, Norway, Pakistan, Sweden, Switzerland and U.S.A. The list of goods covered by the scheme includes medicinal preparations packed ready for sale under proprietary or trade names; photographic materials; sun glasses; safety razors; surgeons' rubber gloves; toilet preparations and requisites not including perfumery.

Soap Rationing.—To allow for the increase in the soap ration, from January 30, to holders of ration books R.B.1 and R.B.4 from six to seven rations per eight weeks (see C. & D., 1948.II.749) retailers' accounts at local food offices are to be increased by one-fifth of the total value of coupons collected by them during ration periods 4 and 5. The credit is to be made on deposit slip S.P.2 issued during ration period 6, and a further similar credit is to be made at the beginning of ration period 8. The Ministry of Food states that the increase in credits is greater than that strictly required for the increase in the customer's allowance so as to improve retailers' stock positions. Each wholesaler is to be granted a special allowance equal to one-eighth of the total domestic ration value of order forms S.P.3 collected during ration periods 4 and 5.

LOCAL NEWS

Christmas Dance.—More than 300 en ployees of Splendor, Ltd., attended the company's Christmas carnival dance a Hucknall, Notts, on December 20, 1948.

Christmas Toys Gift. — Employees Evans Medical Supplies, Ltd., Spek Liverpool, presented toys worth over £15 to the matron of the Olive Mount Chile ren's Hospital, Liverpool, on December 2 1948.

Scottish N.H.S. Statistics.—The numbers of National Health Service prescriptions submitted to the Drug Accoun Committee (Scotland) in the first three months of N.H.S. were as follows (192 National Health Insurance figures in pare: theses):—July 5-31, 1948: 567,36 (249,025); August: 722,751 (256,115 September: 847,766 (284,858).

Middlesex N.H.S. Appointments.—M F. G. Wells (a past-president of the Pha maceutical Society) has been appointed the Middlesex Health Committee in su cession to Mr. R. H. Rowson, who h resigned. Mr. T. W. Moore has be appointed to succeed Mr. Rowson on tl Harrow Area Committee (see C. & I 1948.I.751).

Tribute to British Lenses.—A lectu on church architecture was given at joint meeting of the Sheffield Branches the Pharmaceutical Society and Nation Association of Women Pharmacists rently by Mr. H. Crowther Cox winner of many Royal Photograph Society prizes). Mr. Cox illustrated his ta with lantern slides made from his ov photographs and gave technical details the way in which some of them had be taken. He was emphatic that British leses, which he used exclusively, were equal for not superior, to German lenses.

Annual Dramatic Production. — I audiences of staff, customers and oth friends, W. J. Bush & Co., Ltd., sports cli (dramatic and musical section) present "The Body Was Well Nourished," a cor edy-thriller by Sidney Gilliat and Frai Launder, in London on December 21, 2 and 23, 1948. (P. writes: The play w produced by Mr. E. L. Bush who had a sembled a talented company. It wou be invidious to pick out individuals fi special praise as the casting was exceller This was the fifteenth annual Bush pr duction and I look forward to the new and another most enjoyable evening).

OVERSEAS NEWS

Hungarian Insulin. — An organisation is been set up in Hungary for the colction and preparation of pancreas on a rge scale and it is intended to double e output of insulin during 1949.

Radioactive "Tracers" for Germany.—contract for the supply of radioactive tracers" to approved research institutes the Bizone of Germany has been placed ith the Atomic Energy Research Estabshment, Harwell, Berks.

Argentine-Danish Trade.—The Argenne and Denmark recently signed a trade of payments agreement on a basis of strict ciprocity, with the widest facilities and introducts. Included in the products Argentine will buy from Denmark are harmaceutical chemicals to a value of iree million Danish crowns in the first ear of the treaty. The agreement will be alid for five years.

U.S. Manufacturers and "Quality Conrol."—The U.S. Combined Pharmaceutial Contact Committee has set up a subommittee on "quality control," which is o draw up plans for a survey of the drug dustry and advise manufacturers on the est methods of producing drugs of a high tandard of quality. A similar subcomnittee reported recently on sanitary conrol in the drug industry.

New Drug Against Hypertension.—
A new drug, 6-ethoxy-n-methyl-tetra-hydrosoquinoline, claimed to have shown in tests n animals "the most lasting effects of any rugs of its kind" in reducing blood presure, was described to the 114th meeting of the American Chemical Society, held in Washington recently. A report by reprentatives of several commercial research aboratories stated that doses of 0.2-0.4 ngm. per kilo of body weight "produce profound drops in blood pressure."

U.S. to Control Streptomycin Exports.—A tightening-up of the procedure governing the issue of export licences for streptomycin is forecast in New York, although at present the amount being exported is only bout 50-60 per cent. of the volume authorsed. An "excessive" number of export applications has been received since he restrictions were lifted in June 1948. Reasons given for the proposed changes are hat the present method does not safeguard he domestic need, and that it delegates ontrol of exports to the industry.

Plant Cure Quest in Queensland.— The Plant Industry Division of the Council for Scientific and Industrial Research, University of Queensland, has been enlisting the help of the public in investigating plants in tropical Northern Queensland credited with powers of healing troublesome skin growths or persistent sores. Appeals for informants and collectors are widely circulated, and collectors of alleged vegetable remedies have been bringing much interesting material to the Society. Donors are told the botanical identity of their gifts and what is known of their value, or danger, to people and farm ani-Where it appears that laboratory tests would be worth while, larger quantities of the material are called for.

IRISH NEWS

Lecturer Appointed. — Mr. George H. Roberts, M.Sc., has been appointed by the Senate of Queen's University, Belfast, a recognised teacher in pharmaceutics.

Dublin Chemists' Football.—The Dublin College of Pharmacy Gaelic Athletic Association Club, which has just completed the first half of its season's programme, have won six out of eight points in the league, being defeated only by St. Mary's team, Saggart (many times Dublin champions in recent years). The Club is now eligible to enter the Martin Murphy cup competition, which is confined to the best eight of the twenty-four Dublin senior teams. Supporters of the Club are optimistic that the advent of the New Year will bring still further successes.



INTERNATIONAL CONTROL OF NARCOTICS.—Mr. Gordon Walker (Under-Secretary for Commonwealth Relations) signs for the United Kingdom the United Nations Protocol establishing international control of narcotics, including synthetic compounds. Six non-member States joined the forty-one members in signing. The ceremony took place at the Palais de Chaillot, Paris, on November 19, 1948.

NEW COMPANIES

A. F. PRICE (ESHER), LTD. (P.C.).—Capital £5,000. To carry on the business of chemists, etc. Lilian M. Price and Leonard B. Littlewood, M.P.S., directors. R.O.: 62 High Street, Esher.

FLETCHER (CHEMISTS), LTD. (P.C.). — Capital £2,000. To carry on the business of manufacturing, wholesale and retail chemists and druggists, etc. Anthony H. Rutt, M.P.S., and Norah K. Rutt, directors. R.O.: 1 Ye Corner, Oxhey, Watford.

J. LEE JONES, LTD. (P.C.).—Capital £300. To carry on the business of manufacturing, analytical and dispensing chemists, etc. Minnie Lee Jones and Nancy Freda Jones, directors. R.O.: 96 Albany Road, Roath, Cardiff.

ORLYS, LTD. (P.C.).—Capital £300. To carry on the business of manufacturers of, and dealers in, perfumes, cosmetics, etc. Anthony J. J. Macchi, 9 Lena Gardens, London, W.6, John W. Payne and Robert J. G. Rolfe, directors.

Nappi-White, Ltd. (P.C.).—Capital £500. To carry on the business of manufacturers of, and dealers in, chemicals, drugs, medicines, etc. First directors are to be appointed. Sybil Rapaport, secretary. R.O.: 17 Conduit Street, London, W.I.

PLATARG INSTRUMENTS, LTD. (P.C.). — Capital £100. To carry on the business of manufacturers of, and dealers in, dental and surgical instruments, etc. Joseph Beim, director. R.O.: 7 Ramillies Place, London, W.1.

A. W. FUTTER & Co., LTD. (P.C.).—Registered in Belfast. Capital £100. To acquire the business of a druggist carried on at The Medical Hall, Carnlough. Alfred John Futter, registered druggist, and Margaret Agnes Futter, directors. R.O.: Havelock Place, Carnlough.

D. Jones & Son (Chemists), Ltd. (P.C.).—Capital £1,000. To acquire the business of general chemist heretofore carried on by David H. M. Jones at 9 College Green, Merioneth-Annie M. Jones, M.P.S., Winifred Parry, Ephraim W. R. O. Griffiths and John H. M. Lloyd, directors.

MOUNTFAIR PRODUCE, LTD. (P.C.).—Capital £5,000. To carry on the business of merchants, manufacturers, etc., of oils, fats, resins, gums, waxes, colours, chemical foods and other products. Harold J. Kendrick, director. R.O.: 39 New Broad Street, London, E.C.2.

VISIJAR LABORATORY SUPPLY Co., LTD. (P.C.).—Capital £3,000. To acquire the business of a manufacturer of laboratory and medical equipment now carried on at 35 Prince of Wales Road, Sutton, Surrey, as Beautiline Art Products. Raymond W. Corbitt and George A. Romer, directors.

PRIDE PRODUCTS, LTD. (P.C.).—Capital £7,500. To acquire the business of Pride Products carried on at 10 Park Square, Leeds, 1, and to carry on the business of manufacturing pharmaceutical and general chemists, etc. Alec Livingstone, M.P.S., Ann Livingstone, Mark Ross, M.P.S., and Rose Ross, directors.

GORDON-MOORE, LTD. (P.C.).—Capital £1,000. To carry on the business of manufacturers of and dealers in tooth paste, toilet requisites, medicines,

drugs, colours, dyes, proprietary articles, pho graphic equipment, etc. Robert Launceston P ton, director. R.O.: 31 Sinclair Road, Lond W.14.

CRANTON CHEMICAL Co., LTD. (P.C.).—Capi £1,000. To acquire the business carried on Ernest S. Stanley at 35 Byrom Street, Manch ter, and to carry on the business of manufactur of dyestuffs, pigments, chemicals, etc. Ernest Stanley, director. R.O.: 212 Brunswick Stre Chorlton-on-Medlock, Manchester, 13.

TRILITE (OVERSEAS), LTD. (P.C.).—Cap £20,000. To acquire the patent rights in resp of an invention known as Trilite inhaler and improvements in or relating to inhalers for ar gesic or anæsthetic purposes in all parts of world (other than the African continent). Niche J. Harrison and William H. Harrison, direct R.O.: 184 Horninglow Street, Burton-on-Trent

Henry Heaton & Co., Ltd. (P.C.).—Cap \$27,000. To acquire the business of manufactur of and dealers in soap and detergents carried by Walter Baxendall and the legal personal rep sentatives of Solomon Bastow, deceased, at Sprifield Soap Works, Mumford Street, Bradford, Henry Heaton & Co. Walter Baxendall signs director.

Company News

Monsanto Chemicals, Ltd.—Dr. L. F. Nichas resigned from the board of directors.

Boots Pure Drug Co., Ltd.—Mr. H. T. Milr

B.A., has been appointed to succeed Mr. A. S den, J.P., as secretary to the company and associate companies.

BOWMANS CHEMICALS, LTD.—Profit for the y ended October 31, 1948, before tax deductio amounted to £13,364, against an average £12,996 for the three years ended October 1947. Owing to capital reorganisation, comparat figures for 1947 are omitted from the direct report. Provision for depreciation is £7,794, agai £6,791 for 1947. A final ordinary dividend recommended of 7½ per cent., less tax, making per cent. for the year. Mr. C. C. Posnett, director retiring by rotation, offers himself for election.

BUSINESS CHANGES

WRIGHT, LAYMAN & UMNEY, LTD., Lond S.E.I, have appointed Mr. G. Scantlebury, M.P. as their representative for south-west England

TATTOO COSMETICS, LTD., is the new title ad ted by the company at Eldon Street House, L don, E.C.2, formerly known as L. J. Ruskin, L

VITAMINS, LTD., have appointed Mr. H. Qu their representative for the midlands (Warwi shire, Staffordshire and parts of Shropshire s Worcester).

The following officers of the Federation of Chabers of Commerce of the British Empire. have be elected for 1949: Chairman of Council, Mr. McLean, C.B.E.; Deputy-chairman, Sir Percy Mills, K.B.E.; Treasurer, Mr. J. R. K. Tyre

TOPICAL REFLECTIONS

iving Dangerously

Enough of the recent address of Pro-essor R. C. Garry, in Edinburgh, is re-ported on p. 833 to show that it must have a stimulating experience for his earers. His main theme, according to my eading of your selection, was that we are iving dangerously, striving with dubious prospects to adjust ourselves more effectully to our environment. The only statenent that gives me pause occurs in the pening sentence: "Until recent times the nvironment of man was stable." neaning of this phrase is obscure. History loes not support a conception of man as nowing, in past ages, what to expect when in contact with nature. Apart from he insecurity of tenure—and of life—prealent in periods of barbarism, such accilents as flooding and epidemics were recurring risks. But Professor Garry's conlusions as a whole will command the ssent of most readers. As an experienced physiologist he surveys dietary problems vith authority; students of this and asso-iated subjects may with advantage read hat part of his address carefully. Attenion may be called, in particular, to the irst two of his conditions for obviating he danger of widespread famine: they are 1) production keeping pace with growth of population, and (2) a cessation of pracices leading to soil erosion. The second of these conditions concerns in similar degrees workers in the academic and manuacturing aspects of chemistry.

Fertilisers and Fertility

The conditions of fertility in the soil are ably summarised in a recent article by Mr. Fairfield Osborn in "The Atlantic Monthly." Fertilisers, he urges, are "corrective supplements," not substitutes for the natural processes that account for the iertility of the earth. Agricultural soil "is live in the sense that it harbours many different kinds of living organisms that function in relationship to one another . . Ingenious as man is, he cannot create life." Mr. Osborn points out that, first, the pasage of animal bodies, large or small, through the soil, lets in air and water; secondly, these bodies (including bacteria) are, in effect, soil chemists. In addition there are numerous inorganic substances compounds of iron, phosphorus, calcium and so forth-and finally, the "trace" elements now known to be of greater importance than had been supposed. An American university authority is cited for the statement that by careless treatment the soil of a farm may, within a generation, be so depleted as to become a place of deficiency diseases for the animals, and even for the human beings that live there. Crops grown on such land may change from balanced sources of nourishment to "vegetation mainly of fuel value." hardly be added that these risks are accentuated by reckless felling of trees and by overworking of land for the sake of quick returns. Nature demands the co-operation of the cultivator. The thickness of the top layer of soil with which growers are concerned is computed at not more than twelve inches; even where it remains undisturbed by erosion it does not leave much margin for taking chances.

From Another Side

Liverpool chemists must have appreciated the opportunity of facing Dr. Harold Davis and of asking him questions about the National Health Service (p. 829). The most valuable part of his address was, I think, the hints on dispensing. On that subject he speaks as an acknowledged expert. In preparing eye-drops, for instance, the importance of taking full aseptic precautions was rightly stressed. The fact that serious infections have occurred following the use of non-sterile collyria should be enough to warn dispensers to keep on the safe side in this matter. Again, the speaker wisely cautioned pharmacists against substituting any dispensed preparation for another without the prescriber's sanction. This is so clearly a policy of common sense that it should hardly be necessary to emphasise the advice. Dr. Davis's references to the Ministry of Health, in which he is a distinguished official, will, I assume, be taken with a grain of salt. In all probability panel chemists and their negotiating committee are destined to lengthy discussions on the terms and conditions of contracts with the Ministry. A reference to "St. George" in the clever and amusing cartoon on pp. 826-27 indicates one feature of the situation. As in 1912-39, so in 1948—well, let us hope that negotiations for more equitable working arrangements will not drag on indefinitely. A new year is looked upon as the time of new resolutions. In addition, it may and should bring new hopes. Xrayser

DEATHS

McGrath. — At his home, 32 Upper Beechwood Avenue, Dublin, recently, Mr. Dermot McGrath, L.P.S.I., after a brief illness, aged forty-six. Mr. McGrath was in business at 22 Aungier Street. Only a form prottle age, had taken over few months ago he had taken over Kearney's Medical Hall, Capel Street, Dublin, as a branch pharmacy. A native of Stewartstown, co. Tyrone, he served his apprenticeship in Foley's Pharmacy, Parnell Street, Dublin, qualified in January 1928, gained experience in Mr. James McKeever's pharmacy at Navan, and opened a business in Drogheda. Drogheda he removed to Dublin. McGrath is survived by his widow and five children. Many pharmacists and representatives of the drug trade attended the funeral to Dean's Grange Cemetery on December 20, including Messrs. P. A. Brady (president, Pharmaceutical Society of Ireland) and James G. Coleman (registrar), J. J. Kerr (former registrar), Brendan R. Smith (secretary, Irish Drug Association), F. J. Steele, Louis Cashman, B. M. Laverty, F. McDonnell, F. Barragry, Ruddock, Doherty (May, Roberts (Ireland), Ltd.), Nicell, Dr. MacMahon, and the Misses Marey Foley and Winifred Ryan.

Sagar.—On December 14, 1948, Mr. Henry Sagar, M.P.S., 50 Church Street, Gainsborough, Lancs, aged sixty-eight.

STOTHERT.—At his home at St. Anneson-Sea, on December 27, 1948, Richard Maxwell Stothert (governing director, Stotherts, Ltd., manufacturing chemists, Atherton, nr. Manchester) aged seventy-eight.

WILLS

MR. THOMAS SNODGRASS RATCLIFFE, The Sheiling, Cyprus Road, Mapperley Park, Nottingham, formerly a director of Boots Pure Drug Co., Ltd., left \$20,348 (£18,066 net).

RT. HON. ROBERT JOHN STRUTT, 4TH BARON RAY-LEIGH, M.A., Sc.D., F.R.S., D.L., J.P., Terling Place, near Chelmsford, Essex (president of the British Association. 1938, and of the Physical Society, 1934-36), left &232,850 (£197,804 net).

MR. A. H. PRICE, M.P.S., 15 Waterfall Lane, Blackheath, Birmingham, a director of A. S. Price & Co., Ltd., wholesale and manufacturing chemists, High Street. Blackheath, Birmingham, left £20,042 (£19,961 net).

MR. CHARLES ALEXANDER HILL, Ph.C., 13 Buckingham Palace Road, London, S.W.1, chairman and managing director of The British Drug Houses, Ltd., 1909-43, president of the Association of British Chemical Manufacturers, 1930-31, and three times president of the British Pharmaceutical Conference, left £36,628 (£36,520 net).

LEGAL REPORTS

Committed for Trial.—At the Nort London magistrates' court on December 21 1948, three men and a woman were committed to the Central Criminal Court o charges (see C. & D., 1948.II.691) relating to an alleged theft of 500 gm. cc caine, value £45 11s. 8d., from the premises of The British Drug Houses, Ltd Graham Street, London, N.1. All pleade not guilty, reserved their defence, and wer allowed bail.

Pharmacy Act Fines.—At North Londo magistrates' court recently, Daniel Davie M.P.S., 344 Caledonian Road, N.1 appeared to answer summonses that at 32 Caledonian Road, N.1, he had sold poisor otherwise than under the supervision of registered pharmacist. He was fined 40s. wit 21s. costs, on each of six summonses. Prosecuting solicitor said that defendant ha two shops. The one at 324 Caledonia Road had an unqualified person as manager

INQUESTS

Dispensing Hours Criticised. — At a inquest at Greenwich recently on a four months-old child who had died of bronchis pneumonia a few hours after being admitted to St. Nicholas Hospital, Woolwich, doctor said that the child had been transferred to the hospital as no chemist wa open to dispense the prescription he ha written.

Coroner's Caveat on Phenobarbitone.—At an inquest at York, recently, on a ma who had died in hospital after taking a overdose of phenobarbitone and aspirin takets, the coroner hoped the medical profesion would take note of the "large increas in the number of suicides" resulting from the widespread use of phenobarbitone. Examination of a chemist's records has shown that the dead man normall received thirty ½-gr. tablets of phenobarbitone every thirty days.

First Fatal Beryllium Poisoning.—A inquest was held at the East London coror er's court recently, on a thirty-six-year-ol physicist whom the coroner said was th first man to die in Britain from the actio of a beryllium compound. Evidence wa given that between 1941 and 1942 the mahad been working with materials containin beryllium oxide for use in fluorescent tube He remained well until 1945. Dr. J. Agata a Medical Research Council worker, sai factories had been notified of precautior which might be taken.

IN PARLIAMENT BEFORE THE RECESS

By a Member of the Press Gallery, House of Commons

IR. McFarlane asked the Minister of ood what quantities of ingredients had een imported for the manufacture of soft rinks in the year ended July 1948, and hat amount of hard currency had been volved. Mr. John Strachey replied at the imported ingredients used in the nanufacture of soft drinks in the year ded July 1, 1948, had been 26,000 tons f sugar, 20,000 tons of fruit juices, 400 pns of citric acid and 24 tons of essential ils. About £188,000 worth of hard urrency had been involved. He thought hat very moderate expenditure of hard urrency was justified.

hemical Industry Inquiry

MR. HAROLD WILSON announced an aquiry into the chemical industry (see '. & D., December 18, 1948, p. 781). "I feel nat the Government should be in posseson of a comprehensive survey of this basic adustry showing its long-term plans, its robable lines of development, and the

steps regarded as necessary to meet the objectives disclosed by the survey. The chemical industry is a complicated and diversified industry and the techniques (such as the working party) applied to other important industries were not appropriate."

National Health Service

COLONEL STODDART-SCOTT asked the Minister of Health what moneys had been paid out of public funds since July 5, 1948, in respect of hospital services, general medical services, pharmaceutical services, general dental services and ophthalmic services. Mr. Aneurin Bevan issued a table of figures showing expenditure as:

Hospital services, £58,000,000. General medical services, £7,982,994. Pharmaceutical services, £5,438,709. General dental services, £5,541,658. Ophthalmic services, £4,047,568.

MR. M. L. ASTOR was told that machinery existed to check abuses of the Service.

U.S. "BATTLE" OVER PARENTERAL SOLUTIONS

HE United States Food and Drug administration recently decided to enforce gorously the standards of the United tates Pharmacopæia and National Fornulary for the clarity of solutions for arenteral administration. The American dustry has retaliated by a move to throw ut these standards and substitute a tolernce figure for manufacturers' guidance.

Unrealistic and Unenforceable "

At a meeting of the combined pharmaeutical committee of the American Drug Manufacturers' Association and the Amerian Pharmaceutical Manufacturers' Assoiation in Washington, the industry expressed its conviction that the present official standard (that parenteral solutions hould "be substantially free of any turoridity or undissolved material which can be detected readily") was unrealistic and menforceable. The committee's views were made known to the U.S.P. and N.F. rerision committees. Following a full discustion of the matter, the revision committees becided to appoint a subcommittee to work but a tolerance standard. The problem of safety and purity of

arenteral solutions has recently become of the properties of the drug manufacturing industry because of an apparent desire

upon the part of the F.D.A. to tighten its permitted limits on the presence of extraneous material in solutions. Recently, injunction proceedings were brought against the Bristol Laboratories, Syracuse, N.Y., against the shipment of a number of its injection products because of the alleged presence of insoluble material in excess of what the F.D.A. considered safe for use.

In a statement adopted at the meeting of the combined committee and later read to the open conference of the U.S.P. and N.F. revision committee, it was stated that "experience and research have shown that it is physically impossible to prepare parenteral solutions free of particles. Scientific evidence is available . . . to show that sterile particles of extraneous material, including glass, fibre and carbon, are harmless upon intravenous injection; repeated administration of amounts far exceeding those found in ampoules, produced in accord with good pharmaceutical practice, does not cause embolism or any untoward effect. The present standard must be revised to include a tolerance and a method for determining compliance with the requirement."

In the discussions that followed, F.D.A. officials insisted that it was not their business to write, but only to enforce, the law.

TRADE NOTES

Aids for Opticians.—Alf. Harrison & Sons, Ltd., Burley Road, Leeds, 4, list on another page a number of items of stationery of interest to chemists-opticians.

Family Tube of Tooth-paste. — Macleans, Ltd., Great West Road, Brentford, Middlesex, have introduced a new family-size tube of Macleans tooth-paste.

Return to Pre-war Quality.—An illustrated announcement by Robinson & Sons, Ltd., on another page, gives the welcome news of a return to pre-war standards of quality in pill and ointment boxes.

Point-free.—Bickiepegs, Ltd., 46 Tewin Road, Welwyn Garden City, Herts, notify chemists that, under a Ministry of Food ruling, Bickiepegs may now be supplied without points.

Additional Bonus.—Details of an additional bonus offer on Angier's Supavite and halibut-liver oil capsules, open until February 28, are given in an announcement elsewhere in this issue by Fassett & Johnson, Ltd., 86 Clerkenwell Road, London, E.C.I.

Packaging Material.—Methods of solving packaging problems are suggested in announcements on other pages by Box-FOLDIA, LTD., Bournbrook, Birmingham; J. DRING, LTD., The Airport, Portsmouth; and Gordon & Gotch, Ltd., 75 Farringdon Street, London, E.C.4.

Price Correction.—Armour Laboratories (Armour & Company, Ltd.), Lindsey Street, London, E.C.1, send their regrets to chemists for an incorrect price given in a recent announcement concerning capsules liquoris vitaminorum A et D concentrati, N.(W.) F. The correct price is 37s. 6d. per 1,000 net.

New Year Greetings.—The following advertisers devote space in the advertisement pages of this week's issue to New Year greetings to their customers:—HAETAM, LTD., 63 Corporation Street, Manchester, 4; T. & H. SMITH, LTD., Edinburgh and London; and Victor Spencer, LTD., 28 Bristol Street, Birmingham, 5.

Proprietaries Freed from Tax. — The following manufacturers have notified products exempt from tax under a recent Order (see also C. & D., 1948 II. 788, 804, 819):—CROOKES LABORATORIES, LTD., Park Royal, London, N.W.10 (Lactalumina). GLAXO LABORATORIES, LTD., Greenford, Middlesex (Mersagel). MAY &

BAKER, LTD., Dagenham, Essex (Acetylar san (Children's solutions), Planochrome and Pragmoline).

D.F.P.—Boots Pure Drug Co., Ltd. (Medical Department), Station Street Nottingham, announce that di-isopropyl fluorophosphonate (D.F.P.) is available a eye drops and as a solution in oil for in jection. Good reports have been received on its use in the treatment of glaucoma Literature on D.F.P. is in course of preparation by the company's printers. The packings are a box of six 2-mil ampoule and a 10-mil bottle of eye drops.

Price Changes. — BRITISH SCHERING LTD., 167 Great Portland Street, Londor W.I, announce reduced prices from Janu ary I for Proluton (progesterone) am poules.—ROUSSEL LABORATORIES, LTD., 9 Great Portland Street, London, W.I, an nounce reductions effective from Januar I in the prices of Lutogyl-2, Lutogyl-and Lutogyl-10 progesterone ampoules and Lutogyl implants (containing 100 mgm progesterone). From the same date the price of Hemostyl ampoules for oral ad ministration is being increased.

Marketing Changes.—From Januar I, the distribution in Scotland of Camila tone beauty shampoo and Tonrinz an other Camilatone specialities will be take over by Mr. J. O'Hara, 91 The Ova Stamperland, Clarkston, Glasgow.—Salt Tilney & Co. (Marketing), Ltd., Lloyds Avenue, London, E.C.3, have bee appointed sole distributors in England an Wales for Sanmex products, which ar manufactured by British Products Sanme Co., Ltd., 5 Dalmarnock Road, Ruther glen, Glasgow.—Tryst Cosmetics, Ltd. Carlisle Road, London, N.W.9, have take over the distribution of all Tryst product

Distribution în Northern Ireland.-British Chemicals & Biologicals, Ltd Loughborough, Leics, announce that, fror January I, warehouse and dispatch facilities for the distribution of pharmaceutica products manufactured by Benger's, Ltd Genatosan, Ltd., and Whiffen & Son, Ltd are being made available at the factor owned by Benger's Ltd., at Coleraine, co Derry, N. Ireland. Orders for the pharmaceutical products of the companies shoul be sent to that address, or to wholesaler. Orders for the fine chemicals manufacture by Whiffen & Son, Ltd., should continu to be sent to Messrs, Whiffen at Carnwat Road, Fulham, London, S.W.6.

New Anthelmintic Compound. — After esting over 1,000 piperazine compounds ederle Laboratories division of the Amerian Cyanamid Co. discovered in 1-diethylarbamyl-4-methyl-piperazine (Hetrazan liethylcarbamazine) a product with high ffectiveness and low toxicity. Extensive rials of Hetrazan are being carried out in nany countries, and the results indicate hat the filariæ quickly disappear from the blood stream. A few hundred mgm., given n divided doses during a period of three o seven days, bring about a 90-100 per ent. reduction in microfilarial counts. In nany patients receiving similar treatments ver a period of three to four weeks, with blood examinations at monthly intervals, omplete absence of the parasites has been oted for a full year. It has not been letermined whether the female worms are illed or sterilised by the drug. In the stablished dosages the drug has proved elatively non-toxic. All patients have renained ambulatory, and the chief com-laints have been headache, lassitude and ague malaise. The drug is given orally, hree times a day after meals. Further linical research is being done on loa-loa, scariasis, and trichinosis, with results that ppear promising. The company is repre-ented in Britain by Cyanamid Products, Ltd., Brettenham House, London, W.C.2.

Proprietary Articles Trade Association

Alterations to Protected List (Part 1).—Crookes aboratories, Ltd., Reduced prices, January 1, acto-calamine lotion, 18s., tax 33\frac{1}{3} per cent., nclusive retail price 2s. 9d.; cream, 14s., tax 33\frac{1}{3}

er cent., i.r.p. 2s. 2d.

W. T. Owbridge, Ltd., Increased prices in reat Britain, January 1, Owbridge's lung tonic, os. 9d. doz., tax 33\frac{1}{3} per cent., i.r.p. 1s. 6d. iross lots and upwards, 1os. 3d. doz. Prices in Forthern Ireland and Eire unchanged.

Additions to List (Part 1).—H. R. Napp, Ltd., becedin emulsion, 80-oz. winchesters, 78s. 9d. ach, 105s. (exempt). [Corrected note.] Alterations to List (Part 2).—Cutex Manicure reparations (Agents: J. C. Gambles & Co., Ltd.), Luticle remover, No. T1, 10s. 9d. doz., tax 100 per cent., i.r.p. 2s. 3d.; nail shampoo, No. 3, 2s. 2d. doz., tax 100 per cent., i.r.p. 2s. 3d.; nail shampoo, No. 3, 2s. 2d. doz., tax 100 per cent., i.r.p. 2s. 3d.; nail shampoo, No. 3, 2s. 2d. doz., tax 100 per cent. 35. 3d. doz., tax 100 per cent., i.r.p. 2s. 9d.; and cream, No. 7, 16s. 9d. doz., tax 100 per cent., i.r.p. 3s. 6d.; cuticle cream, No. T13, 0s. 9d. doz., tax 100 per cent., i.r.p. 2s. 3d.; oil, No. T14, 10s. 9d. doz., tax 100 per cent., i.r.p. s. 3d.; polish foundation, No. T23, 10s. 9d. doz., ax 100 per cent., i.r.p. 2s. 3d.

Silvikrin Products (Distributors:

Scott & Bowne, Ltd.). Silvikrin hair-tonic lotion (large ize), 24s. 9d. doz., tax 100 per cent., i.r.p. 4s. 10d. ketail price (4s. 10d. including tax) does not perate until January 1, 1949.

PERSONALITIES

DONALD W. HUDSON, Mr. M.P.S., chairman of the local committee of the British Pharmaceutical Conference, Brighton, 1948, was guest of honour at a dinner given by fellow-members of the committee at Brighton recently.

Mr. H. H. Marshall, M.P.S., who recently sold his business at 128 Alcester

Road, Moseley, has resigned as a member of the Birmingham Pharmaceutical Committee after continuous service in that capacity since 1914. Mr. Marshall was chairman of the National Pharmaceutical Union, 1930, president of t h e Proprietary Articles Trade Association, 1940, a n d secretary,



since 1916, of the P.A.T.A. Minimum Prices Committee. He qualified in 1897 after serving an apprenticeship with the late Mr. I. W. Chapman, Bristol Street, Birmingham, and as an assistant with the late Mr. F. Smith, Birmingham, and with his brother, the late Mr. A. E. Marshall, Lichfield. In 1899, Mr. Marshall opened a pharmacy with his brother at Sparkhill, Birmingham, taking charge of the branch at Moseley a year later. In 1922 he was elected to the (then) Retail Pharmacists' Union Executive. The same year he became president of the Birmingham Pharmaceutical Association, and in 1923 he was elected to the council of the Proprietary Articles Trade Association.

DR. L. F. NICKELL, who has resigned from the board of directors of Monsanto Chemicals, Ltd. (see p. 4) after being chairman for the past eighteen years, is to return to the U.S.A. He came to Britain in 1930. Dr. Nickell graduated and took his doctorate at the University of Illinois, his native State. Later he became Professor of Chemistry at Washington University, St. Louis. He joined Monsanto Chemical Co., St. Louis, as a research chemist in 1917 and was later appointed manager of the company's East St. Louis plant. From that post he came to England in the year 1930 as chairman of the British company.

BIOLOGICAL SUBSTANCES OF THE 1948 B.P.

A Review by Sir Percival Hartley (concluded)

Dealing with diagnostic agents of the B.P., 1948, in a lecture on December 15 (see also $C.\ \mathcal{E}$ D., 1948.II.821), Sir Percival Hartley said that purified protein derivative (tuberculin P.P.D.) would replace Koch's old tuberculin as a diagnostic test material for tuberculosis. Both preparations were standardised biologically by injecting falling doses of the standard preparation into points on one of the shaved flanks of a guinea pig. Falling doses of the material under test were injected similarly on the other flank and the reactions produced compared with those produced by the standard. The B.P. stated that the potency of the sample should not differ from the standard by an amount detectable by the test. The international standard was met.

Schick test toxin was a sample of a carefully selected diphtheria toxin and was used to determine whether persons possessed sufficient diphtheria antitoxin to protect them against infection. The test was used chiefly on children, the test dose of the toxin being injected intradermally. The formation of a small red reaction in the skin indicated that the child had not sufficient antitoxin, and absence of a reaction that it had sufficient. A control test had to be carried out at the same time to assist in the interpretation of pseudo reactions. For this, Schick control, which was a similar sample of Schick test toxin that had been heated to not less than 70° C. for not less than five minutes, was used.

Controls Fully Justified

The test toxin was tested for combining power and toxin content. The official statement on combining power was that the test dose must be neutralised by 1/750 but not by 1/1250 unit of antitoxin. Schick test toxin, which was of immense importance to medical officers, could be used, for example, for determining susceptibility or resistance of individuals or populations to diphtheria, and thus serve as a guide for action. The control of these reagents, as outlined in the B.P., was fully justified.

Although only some twenty in number, the monographs on vitamins or vitamin-containing preparations were very important. The record of the developments in the knowledge of vitamins, and the application of this to the nutritional needs of the people before, during and since the war, as illustrated in the B.P. monographs, was one of

the most valuable practical contribution made in times of stringency and difficult

Digitalis and strophanthus, still the bas of heart medication, were represented in the Pharmacopæia by digitalis leaf; prepare digitalis (for tablet-making, etc.) standard ised to contain a stated number of intenational units of activity; strophanthu ouabain and digoxin. Ouabain, which have the activity of strophanthin K, have the activity of strophanthin K, have placed the latter in the Pharmacopæi Digoxin, a glucoside obtained from Digital lanata, had a similar pharmacological effet to digitalis, its purity could be tested chemically, and it was particularly suitable for the preparation of tablets and injection which, like digoxin, were official.

Insulin

The great progress that had been made in the insulin field since 1932 was reflecte in the fact that during that time the inte national standard had been changed fro a sample containing eight units per mgn which served for the assay of the earli preparations, to a crystalline sample co taining twenty-two units per mgm., while was more satisfactory for the assay more modern products. Further examin tion showed that the crystals contained small quantity of zinc as an integral pa of the molecule, and that the crystallisatic of insulin occurred more easily in plants which zinc occurred in the metallic appar Work on methods of prolongia tus used. the action of insulin showed that combinis the principle with protamine gave prom ing results, addition of zinc gave even be ter results, and a combination of the ty had a still further prolonging effect. Mc recently globin insulin had been develop but, as the workers were not quite satisfi with certain factors, it was not includ in the Pharmacopæia, 1948. Injection insulin, and of protamine zinc insulin, we dispensed in strengths of 20, 40 and units per mil, and manufacturers hagreed to affix labels of different color for the different strengths, all manufa turers having agreed to use the same colo to indicate the same strength. This w a most important agreement. The Briti Pharmacopæia gave instructions concerni the strength of insulin to be dispensed the details were not specified.

The former extract of the pituitary (puterior lobe) was now more properly call

an injection, and separate monographs were given for injections of the oxytocic and pressor principles, and the three monographs, together with the assay monographs, provided for identification, dispensing, storage and labelling of these products.

Of the ten official sex hormones only two of the substances had not been prepared chemically. Those were the chorionic gonadotrophin, which had a luteinising effect and was obtained from the urine of the pregnant woman; and serum gonadotrophin, the main action of which was stimulation of follicular growth. It was obtained from pregnant mares' serum at about the

sixtieth day of pregnancy.

Only one antibiotic was included in the B.P., 1948, but progress in the field had been rapid and many advances had been made since the introduction of the Pharmacopœia. This indicated an early addition to the number of official antibiotics. The penicillin monographs in the B.P. con-formed to decisions taken at the International Conference held in 1944, and were in conformity with the requirements of the Therapeutic Substances The requirements were in accordance with what was known con-cerning penicillin at the time the 7th B.P. was completed. As information increased, and if new types of penicillin were discovered, new standards established, and new units defined, the necessary additions would be made to the Pharmacopæia, and no doubt the method which brought the earliest monographs into effective use so quickly—notice in the "London Gazette" -would be employed again.

Heparin, the sodium salt of acomplex organic acid obtained from lung or liver tissue, was used for delaying the clotting of blood, and administered by intravenous injection. The future of liver extract in the treatment of pernicious anæmia now held much greater promise. Since the active principle had been isolated, the future would no doubt see the establishment of an international standard, the definition of an international unit in terms of that standard, and the development of comparative methods of assay.

Principles of Biological Assay

Outlining the principles underlying biological assays as used in the British Pharmacopæia, the speaker said that the methods depended on camparing the sample under test with a standard. The aim was to determine how much of the sample to be tested was equivalent in activity to a

known amount of the standard preparation, the tests being carried out under strictly comparable conditions. By estimation of the errors of the assays it was possible to make an estimate of potency even of preparations in which these errors were

arge.

The B.P. was far more than the mere result of patient endeavour and the accumulation of existing knowledge. Such a description failed to bring out to what great extent the international achievements under the League of Nations and the World Health Organisation had been incorporated into the work. He advised pharmacists to acquaint themselves with the constitution and aims of this organisation.

Discussion

Replying to a questioner, SIR PERCIVAL said that the loss of potency of a modern antitoxin, even if stored at room temperature, was of the order of 10 per cent. per annum, and if stored in a refrigerator was 5 per cent. or less. From his own investigations he had found that antitoxins were rather stable substances, and the idea that they were labile derived from early work on the subject, and on early preparations. It had been found that when first antitoxins are prepared their potency declined rather quickly for a short time, but was maintained fairly steadily afterwards. In practice, antitoxins were allowed to mature before they were processed prior to issue. He suggested that labels such as "not to be used after May 1, 1940" on antitoxins should be forbidden. He had examined, during the 1930's, antitoxins made for the 1914-18 war, and had found that they had lost 50 per cent. activity.

Replying to Dr. I. MICHAELS, he stated that recent work indicated that protection against whooping cough might be conferred by pertussis vaccine, but the observations had to be repeated before definite conclusions could be drawn. He did not know of any large-scale trials of combined whooping cough and diphtheria vaccine. He agreed with another questioner that although investigations on a small scale had been reported, the standardisation of bacterial vaccines according to their antigenic properties presented great difficulties, and suggested that probably the assessment of the antigenic value of prophylactics might be a somewhat simpler problem. Individual variation to antigenic stimulus was wide.

[Sir Percival's address concluded the series of lectures on the new B.P. organised

by the Pharmaceutical Society.]

ACTIVITY AND CHEMICAL CONSTITUTION

Summary of an address given to the Fine Chemicals Group of the Society of Chemical Industry in London recently, by Dr. F. Bergel.

Dr. F. Bergel, speaking to the Fine Chemicals Group of the Society of Chemical Industry recently, indicated that, in examining aspects of the relation between structure and action, he would refer mainly to symptomatic drugs—those used for symptomatic relief rather than those which aimed at curing a disease. In 1869, Crum-Brown and Fraser had first suggested that the physiological action (\$\phi\$) of a drug was a function (f) of its chemical constitution (\$C_D\$) expressing the statement in the pseudo-mathematical form:

 $(\emptyset) = f(C_D)$ The physiological action (ø) represented that specific response of the whole animal, parts of organs or of living cells to various concentrations of a drug, a response that consisted, for example, in alteration of respiration, blood pressure, muscular contractions and relaxations and other observed phenomena. The connection between ø and CD, represented by f, is an implicit function, as CD cannot be directly expressed in terms of ø. Two hypotheses for the mode of action of certain drugs helped to simplify the otherwise rather confusing picture with reasonable probability. The first, the receptor theory, was that specialised receptors or active patches of the cell at the site of action combined with the drug and that these combinations, cause ø, the pharmacological-physiological action. It was possible that drugs such as most symptomatics, which acted rapidly and in high dilutions, found their receptors on the outside of the cell surface, while those in-fluencing growth or cell division reacted on constituents of the protoplasmic interior. Methylene blue, with its atropine-like and anti-bacterial effect, afforded an example of such external and internal action.

Effect of Physical Properties

The second hypothesis speculated that at least a number of these receptors were identical with functional proteins or enzymes and that theory had, of late, found experimental support in the study of, for example, drug inhibitors of cholinesterases, respiratory enzyme systems, amino-oxidases, and hyaluronidase, and in the discovery of enzyme protectors such as BAL, and the natural hormone insulin. The theory was not incompatible with the following: As the combinations of drug and enzyme receptors

are governed by the physico-chemical law of enzymology, the increase of activities in homologous series, the selective potency o stereo-isomers and the antagonist action o certain substances similar to protagonis molecules can be explained, at least partly on the basis of competitive affinity and mas action. It was more difficult, however, to account for the fact that low concentra tions of certain drugs might produce physi ological stimulation while higher concen trations caused inhibition, and that com pounds of grossly different structures wer known to give similar physiological effects It was possible, however, that certain physi cal properties of drugs such as solubility ionisation, etc., changing gradually in homologous series and markedly amony protagonists-antagonists might overshadov the effect of affinities. It was ver likely that drugs would interact with non enzymatic receptors.

In Vitro and In Vivo Actions

Whether the mechanism consisted of interference with enzymes or other cell wal or protoplasmic constituents, the total sequence of events might depend on or lead to changes of membrane permeability to the passage of normal metabolites, alteration of capillary forces or ion concentrations, and variation in the electro-motive forces between surface and cell, or cell and cell Further investigation into these problem would wisely have regard to the suggestion of Welch and Bueding: that the concentrations of the drug which produced the effect in vitro and which are present at the site of action in vivo, should be closely similar.

It was clear that the pseudo-equation $\emptyset = f(C_D)$ was inadequate as it ignored, intealia, those substances with which drug combine in the tissues. It was, therefore necessary to examine whether the chemica constitution (C_D) was even the principa variable and as such could be related to \emptyset

Only with models based on correct inter atomic distances, van der Waals' radii and valency angles, apart from geometrical and optical isomerism, could the compactnes and spatial distribution of the atomic aggregate be appreciated. It was necessary also to take account of the existence of electro-valent, co-valent and co-ordinate bonds, lone electron pairs, bonds with di-

ole moments adding up to polar groups and polarisation of the molecule, oscillating ipoles resonance, and hydrogen bonding. These all amount to the presence of an lectron cloud, the density and symmetry f which changes according to the interlay of these phenomena, and to the formaion of short range forces, electrostatic disersion, and van der Waals' forces, which nay produce, between appropriate moleules, higher aggregates. Only with an tegration of size, shape, steric characteriscs, electron distribution, rotational and virational factors, was an image obtained f the true physico-chemical constitution, ssential for correlation of these charactertics of drugs with their pharmacological ctivities.

Suggested Approach

For a promising approach to ascertainng relationship between constitution and ction, drugs should be used belonging to homologous series, or containing differnt elements of an overall structure but ossessing various degrees of similar physiobgical activity, or having similar structure ut showing protagonist and antagonist ction, or having diverse structures but milar pharmacological activities; eliability of the method for test of activity hould be ascertained; a working hypothesis f mechanism of action should be estabshed and physico-chemical measurements nd calculations should be made with which attempt to correlate the measured acvities. Too much must not be expected com one or two series of data disclosing nly a fraction of the overall constitution. The most clear-cut data were obtained y the application of x-ray analysis and milar measurements for the true shape nd steric arrangement of molecules. Carsle and Crowfoot had shown, for example, hat the steric arrangements in the hexœtrol and æstrone molecules were similar, whereas the very much less potent isoexœstrol had a symmetric structure. nethod was, however, tedious.

Bond-distances between groups of obvius reactivity had been correlated with acivities, and certain distance appeared op-

imal for maximum effect.

Ferguson had found with a number of hemically diverse but pharmacologically elated compounds, such as anæsthetics, extring the same effect at widely different oncentrations, that their thermodynamic civity coefficients, when chemical reaction was absent lay within a narrow range.

An attempt to correlate dipole moments

thiouracil derivatives with relative goitrogenic activities led to rather disappointing results. Numerous attempts have been made to correlate pk values of bases or weak acids with their pharmacological or microbiological efficacy and while satisfactory correlations had been found in the chemotherapeutic field, the results with symptomatic drugs, such as curariform quaternary compounds, barbiturate or analgesics had failed to reveal significant functional relationships. In the absence of a complete basis for a rational approach, pharmacological chemists had had to rely on more empirical approaches. The aim had often been to find a pharmaco-dynamic group, that is the structural minimum which still carries distinct activity. This method might be illustrated by work on synthetic analgesics. Even prior to the full recognition of the morphine alkaloid structure, a study of the effect of changes of some peripheral groups led to the following conclusions:

(a) A tertiary nitrogen, an intact piperidine ring and an unbroken link between the aromatic and heterocyclic nuclei appear essential for full anal-

gesic activity.

(b) While the phenolic group as-OH or ester but not as ether, and the ether bridge at least enhance potency, removal of the alicyclic double bond and change of the alcoholic CH to CO or CH2 increase considerably the overall activity and also toxicity.

Studies of the action of important fragments of the total morphine skeleton by various workers aided Eisleb and Schaumann in 1939 to find the pharmacodynamic group of analgesic action in the form of a 4-phenyl piperidine derivative, Dolantol or pethidine. The recognition of the value of other structural features led Lee and colleagues to the synthesis of one most potent isomer of 1:3-dimethyl-4phenyl-4-propionoxy-piperidine. With an atomic model the similarity in structural features of the highly active phenyl propylamine amidone, with other analgesics, be-came more apparent. The most fascinating contribution to the problem of constitution and activity relationship in the analgesic series was the discovery by Crewe of the ring closure of 1-benzyl-N-methyloctahydroisoquinoline to a condensed ring system, morphinan, which represented in many ways all the skeletal features of morphine. Lacking all the peripheral oxygens morphine, morphinan nevertheless showed considerable activity.

SCIENTIFIC ASPECTS OF 1948

A review of some of the scientific and technical developments affective pharmacy that took place during the year

PHARMACISTS and their colleagues will look upon 1948 as a milestone marked by the introduction of the seventh British Pharmacopæia. While all the professions concerned may be "justly proud" of the B.P., 1948, as has been repeatedly shown by specialists in a recently concluded series of lectures arranged by the Pharmaceutical Society, research is, of course, often well ahead of the monographs. This is amply exemplified in the antibiotic substances, of which only penicillin is official. In that field research has made rapid progress in this country, two reports on the use of streptomycin, for example, being issued during the year by the Medical Research Council. In April the Council reported that, in trials on tuberculous meningitis, streptomycin prolonged the life of most of the patients, and in October that, in the short-period treatment of pulmonary tuberculosis, the drug had been found of probable maximal use against new lesions. Repeat courses seemed unsuccessful, and work continued towards preventing the development of resistant strains of the tubercle organism, by, for example, associating streptomycin with another drug. During the year output commenced from deep fermentation processes for the production of streptomycin in Great Britain. Other antibiotics that received notable mention during the year included aerosporin, a substance produced by Bacillus aerosporus, and showing promise, according to a report by Brownlee and Bushby, against whooping cough.

Chemotherapy of Rickettsial Diseases

In America, workers determined the constitution of Chloromycetin, an antibiotic described by Sir Robert Robinson as making possible "the first satisfactory chemotherapy of a disease caused by rickettsia,' and opening up "possibilities of controlling virus diseases generally." The compound has been synthesised, though as yet its constitution has not been disclosed. Other U.S. workers isolated Aureomycin, an antibiotic derived from Streptomyces aureo-faciens, which is showing activity against Gram-negative and Gram-positive organisms, and the rickettsia of Rocky Mountain spotted fever. Grisein, a new antibiotic isolated in America from certain strains of Streptomyces griseus by Waksman (the discoverer of streptomycin) and Reynold appears to have a synergistic effect wi streptomycin, which increases the sensi vity of organisms sensitive to both antibil tics and delays the formation of resistance

Towards elucidating how penicillin worl significant contributions have been made I Dr. Lester-Smith and colleagues. Fro work done with material "tagged" wiradioactive sulphur they concluded th penicillin may kill the bacterial cells depriving them of a minute fraction of the sustenance, in the same way as animals d when deprived of essential vitamins.

Tuberculosis and Cancer

In addition to the developments wi antibiotics against tuberculosis, progress pure chemotherapy has been reporte Endei and Snell commented favourably May on the use of para-aminosalicylic ac in the treatment of tuberculosis, an during the year a number of pharmaceutic preparations of the compound were mai commercially available. To study the effe of B.C.G. vaccine in increasing resistan to tuberculosis, supplies of the preparation from well-proved stocks in Denmark a being made available to selected groups Britain.

Knowledge on the biochemistry of canc has advanced to such an extent that, in the words of Sir Robert Robinson on the occ sion of the Royal Society's Anniversar "workers seemed to be on the verge great discoveries." Professor E. C. Dode in a lecture to the 8th International Bi chemical Congress in Paris in October, ou lined the progress made, chiefly in Americ in the study of folic-acid-inhibiting cor pounds which had an inhibiting effect animal tumours. One of the most promisir of these substances is A-methopterin, b the results of clinical trials have not y been disclosed. Dr. T. B. Heaton and Lac Robinson, in this country, isolated a su stance or mixture of substances (perhaps vitamin), from wheat middlings, activagainst carcinoma, while at the Chest Beatty Research Institute, London, Dr. Haddon has made some significant observ tions on the effect of certain pyrimidir derivatives and xanthopterin, a natural occuring substance, on cell growth.

Nitrogen mustard has proved effective,

least as a palliative, in certain malignar

conditions, and during the year a pharmaceutical preparation of the compound was nade available in Britain.

Competitive Antagonism

The discovery of folic acid antagonists is perhaps the most important development so ar in work on competitive antagonism. This work, which is making rapid progress, has already provided medicine with numerous anti-histamine substances which are being used in increasing quantities. A numper of anti-histaminic preparations were ssued by pharmaceutical manufacturers

during the year.

Of the new principles isolated from natural sources during the year, first place in importance goes to the anti-pernicious anæmia factor (or vitamin B₁₂), isolated almost simultaneously by Lester-Smith and colleagues in Britain, and by workers in the United States. The fact that the isolation (called recently by the President of the Royal Society "a triumph of modern chro-motography") was achieved by a physicochemical method emphasises the importance of these methods in the pharmaceutical field. The importance was also pointed out by Dr. N. Evers in his address from the chair to the year's British Pharmaceutical Conference in Brighton, and by Dr. W. F. Elvidge in a series of articles published in these columns in the Spring. A warning given by Dr. Evers against potential dangers of specialisation in pharmacy and science, was reinforced by similar views put forward by Sir John Read, at the annual meeting of the British Association, also at Brighton shortly afterwards.

Scientific Conferences

Other conferences of importance to pharmacy held during the year included the Fifth Commonwealth Entomological Conference, at which a discussion on insecticides was held for the first time, and the Fourth Commonwealth Mycological Conference, which included a discussion on losses due to moulds. Safety in chemical works was the subject of a conference organised in October by the Royal Society for the Prevention of Accidents. ninth International Congress of Industrial Medicine was held in London in September.

Members of the Royal Society of Empire scientific information conference in June, urged authors, referees and others to allow papers to be published only if publication was warranted by their scientific content. Strong disapproval was expressed of "pot boiling" papers.

On the organisational side, the successful start of a Fine Chemicals Group of the Society of Chemical Industry reflects a real need the Group is supplying. The value of the Group to pharmacists is likely to increase as the number of therapeutic principles, plant hormones, insecticides, etc., continues to grow. A suggestion for the formation of a Pharmaceutial Research Council, made by Mr. A. G. Fishborn at the January evening meeting of the Pharmaceutical Society, was discussed by the Council and referred to the Executive of the British Pharmaceutical Conference.

Other Developments

Among other developments of note in the technical field in 1948, were the exploration of new sources of material (such as shark and whale pancreas for insulin); the departure to Nigeria of a unit to study further the chemotherapy of sulphones in leprosy; the production of absorbable dressings made of alginate from Scottish seaweed; the commercial release of a number of new drugs, such as the detoxicant BAL, and a new analgesic C.B.11; the announcement of yet another system of chemical notation suitable for mechanical card indexing (by Gordon, Kendall, and Davidson); recognition of the proximity of "radioactive dispensing" implied in the provisions of the Radioactive Substances Act; and the commencement in Britain of a second atomic pile, which will supply all the isotopes required for research in this country.

No review of the technical developments of 1948 would be complete without reference to the success achieved in the international sphere, through the World Health Organisation, as exemplified in the progress towards an International Pharmacopæia (to be published in 1949); in B.C.G. trials throughout the world: and in the establishment of a World Influenza Centre in the National Institute of Medical Research, Hampstead. Co-operation within the Commonwealth has been shown in the success of the conferences already mentioned, and in the establishment in London of the British Commonwealth of Nations Scientific Liaison Offices (B.S.C.O.) to simplify collaboration on scientific matters between workers in the various territories.

Commonwealth Leaflets.—Leaflets entitled "The Locust," "Leprosy," and "The Tsetse Fly," are among a "Wars not yet Won" series published by H.M. Stationery Office, York House, Kingsway, London, W.C.2, price threepence each.

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"Endorsed, Sorted, Counted and Labelled"

THE attention of all chemist contractors under the National Health Service is drawn to the contents of an announcement ent by the Ministry of Health to Executive Councils that forms, for prescriptions dispensed in January, will be returned to he contractor by pricing offices unless they are correctly presented for pricing. The correct method, described in form E.C.N.8—copies of which are being sent o all contractors by Executive Councils nvolves four operations: Endorsement, orting, counting and labelling. Forms rejuiring endorsement are those carrying prescriptions for Dangerous Drugs (with etters "D.D.A." in top right-hand corner), hose marked "Urgent" by the doctor with hour of dispensing), those for which pecial fees are claimed ("dispensed exemporaneously"), and those not clearly written (with the number of doses, size of lose, and total quantity dispensed). Sorting s required to be into five bundles, a bundle 'S" (to include forms endorsed "D.D.A.", 'Urgent" or "Special," and forms bearng prescriptions of net ingredient cost s. 6d. and over), and the remaining forms under 2s. 6d. ingredient cost) in four bundles sorted and marked according to ate—(i) 1st to 7th of month; (ii) 8th-15th cripts from preceding month; (ii) 8th-15th f month; (iii) 16th-23rd of month; and iv) 24th to last day of month. undles must be brought together, in that

order, into one larger packet for dispatch to the pricing office. Each bundle must be labelled with its correct letter or number ("S" or 1, 2, 3 or 4), the number of forms, number of prescriptions, and chemist's stamp. Since the purpose of enforcing strict adherence to this routine is to enable advance payments to be made to contractors, chemists will require little exhortation to comply with the demands, and with two further "requests" that are a sine qua non for advance payments: Insertion of the number of forms and prescriptions, with their grand total, on invoice form E.C.34, Part A (of which an amended version is being supplied in January), and insertion, on form E.C.38, of the number of prescriptions for which advance payment is claimed. The completed forms have to be placed on top of the bundles of scripts (E.C.34, Part A, above E.C.38) in the packet sent to the pricing office.

It is to be noted that the method of pricing announced for January 1949 and succeeding months meets the demands of the November conference of Pharmaceutical Committee representatives (including pricing in full of "urgent" prescriptions) except that the percentage of "under 2s. 6d." prescriptions to be priced in full is set at 25 per cent. and not at "that initial percentage" (presumably a lower one) which the Conference was by resolution prepared to accept.

Clarity of Injection Solutions

THE United States Federal Drug Administration is now meeting opposition from the American drug industry (see p. 7) because of its intention to pursue a more rigorous policy in interpreting the official standards for clearness of injection solutions. Aqueous solutions for parenteral use (according to the U.S. National Formulary) are to be clear—that is "when observed over a bright light they shall be substantially free from precipitate, cloudiness or turbidity, specks or flecks, fibres or cotton hairs, or any undissolved material." The operative word is "substantially," and this is now to be construed by the U.S. authorities to mean freedom from foreign bodies when viewed with the eye through "a light reflected from a 100-watt Mazda lamp using as a median a ground glass and a background of black and white."

Precautions are, of course, necessary when filtering injection solutions, but in our view the difficulties in obtaining a clear filtrate are secondary to those which arise in cleaning containers for the solutions, particularly the 500-mil blood-bottle type. Small fibres and other particles adhere to the inner surface of the containers by capillarity, and it is not easy to remove them. The employment of modern detergent solutions has helped considerably. reassuring to know that unless solutions are grossly contaminated there is little danger of embolism or other reactions in the patient. American suggestions, however, for permitted limits of extraneous particles will be followed with considerable interest on this side of the Atlantic.

Exports in November 1948

The aggregate value of United Kingdom goods exported in November was £147.1 millions; £7.0 millions more than in October and £1.5 millions above the previous highest value recorded in July last. After making an adjustment for the rise in prices, the volume of exports in November is provisionally estimated to be 148 per cent. of 1938, compared with 142 per cent. in October and slightly below July.

Imports (£181.0 millions) were £6.5 millions more than in October and had been exceeded only twice since the war, in April and July 1948. Re-exports in November amounted to £5.2 millions, a fall of £0.2 millions compared with the previous month. As the rise in the value of exports compared with October was little more than the increase in imports, the adverse visible balance fell by only £0.3 millions to £28.7 millions, but this was the lowest figure since January 1947.

The group total for exports of chemicals and allied products in November was £6,973,801, against £7,171,891 in the previous month. Exports of drugs and medicines, etc., totalled £1,392,106, a small increase on October's exports (£1,357,931). Of this total, £470,320 (October, £499,793) was contributed by proprietary medicines. Compared with October, quining exports were halved—102,044 oz.

(£22,624) against 198,787 oz. (£41,137 A large increase is recorded in shipmen of aspirin which reached a total value (£42,184 in November against £27,868 the previous month. Insulin exports fe from the high total in October of £41,52 to £25,168—the monthly average in 194 so far recorded, is about £30,000. Pen cillin exports totalled 526,544 mega unit valued at £195,065 (October, 314,67 mega units, valued at £127,050). Expor of ointments and liniments were well mai tained with a total value of £62,25 Among the principal buyers of medicin products were India and Pakistan, Austr lia, Egypt, Hong Kong, Malaya, We Africa and Eire. Re-exports of manufa tured or prepared drugs and medicin valued £21,269 at (Octobe £18,593), and of crude or simply prepare drugs at £17,756 (£7,688).

A welcome, though small improveme in exports of toilet preparations occurr during the month, reaching a total £251,595, against £205,702 in Octobe Tooth-pastes, denture preparations, mou washes, etc., shipped, were valued £48,510 (October, £28,924) and cosmeti etc., at £82,451 (£79,754). Exports toilet soap (not included in the total I toilet preparations) in November we at £127,407 compared w £114,906 in the previous month. Expo of natural essential oils reached a total £54,413 (£33,319); re-exports total £28,361 (£9,849).

Streptomycin with Sulphadiazir

THE combined use of streptomycin a sulphadiazine in the treatment of undula fever is reported by Scowen and Garn Medical Journal," 1948. (" British 1099). Two patients were each given gm, sulphadiazine four-hourly by mor and I gm. streptomycin eight-hourly intramuscular injection. continued fourteen days. Both responded to treatment. In one case, temperature to normal within three days; in the ot it dropped more gradually, reaching r mal only at the end of the course. the time of the report both patients I continued to be afebrile (one for months, the other for two months).

CORRESPONDENCE

Sale of Aspirin Tablets

SIR,—There has again been a crop of cases of poisoning by aspirin tablets, probably suicidal, and I think that there should be restriction of sale to pharmacists. I understand that for years the sale in U.S.A. has been allowed only by the qualified. May I congratulate you on your 1948 Cavalcade (C. & D., December 25, pp. 826-27).

Bournemouth.

A. G. FENNELL.

N.H.S. Payments

SIR,—In my opinion, the way to secure prompt pricing of N.H.S. prescriptions is to deal quite separately with ingredient costs and fees. Prices of all N.(W.)F. mixtures, lotions, etc., should be listed at price per oz. (e.g., mist. pot. brom. et nuc. vom., id. per oz.). The dispensing fee should not be marked on each script, because the fee varies according to item. Instead, the fees and containers should be calculated in oulk (e.g., 1,000 scripts at 1s. each, containers 1,000 at 2½d. each). There should then be no reason why pharmacists should not be paid promptly and in full the dispensing fees and container costs, representing work done, together with an amount or drugs, dressings, etc., on account until the actual amount due is determined.

Yours faithfully,

Brightlingsea. P. G. CURTIS.

SIR,—I feel bound to add my evidence to that already published on the subject of proposed payments to chemists on July averages. Winter prescriptions have always liffered in character from those of the summer months. Today, the overworked doctor is, almost without exception, prescribing large quantities to keep the patients away—he thinks! A lot will be wasted (24 oz. mixtures; 8-oz. linctuses). Linctuses in large quantities, sulphon-amide tablets, kaolin poultice, all push up my drug bills, and I have a regular patient or 4 lb. cotton wool and 24 yd. gauze, with the addition of other things wanted at the time—proprietary asthma liquids, suppositories, halibut-oil capsules ordered by the hundred and puly, mag, trisilicat. co. by the pound! Yours faithfully,

Yours faithfully, London, N.W.I. W. R. I. NICHOLSON.

P.S.—The only way an average can work is for doctors to be limited to a week's supply on each script, or for paynent to be by number of doses.

Nominative or Ablative?

Sir,—I notice in your C. & D. Diary and Year Book, 1948, and I presume, 1949, you use the nominative case when describing the days of the week, as Dies Solis, Dies Mercurii. I am a retired chemist, and at the moment acting as locum tenens at a Scarboro' pharmacy. The prescription book was treated in the same way as your diary. Since I have been here (14 weeks) each day has been written up in the ablative case, Die Saturni, Die Martis, etc. According to Ince's Latin Grammar many prepositions govern the ablative case, and Time when" is put in the ablative, whereas "Time how long," or duration of time is put in the accusative. If a script is dispensed say on a Monday, Tuesday, Friday, etc., is this not time when, and therefore in the ablative? As I am a stickler for doing things "just so" I should be glad of your esteemed opinion on this minor detail. Am I right, or am I wrong in my interpretation?

Yours faithfully, R. H. FAWCETT.

Penicillin Pastilles

SIR,—Mr. H. S. Grainger, in his letter Sign.—INT. It. S. Granger, in its fetter $(C. \mathcal{E} D.)$ December 18, p. 807), states that the penicillin pastilles made by us have "a normal shelf life of about four months." We would point out that, during the experimental work, it was found that the pastilles lost no potency after storage for eight months. From evidence now available it is clear that, when kept in the hermetical pack, they can be stored at 20° C. for periods of one year and longer. A point of interest is that, when the pastilles are removed from their wrapping and freely exposed to the air of the laboratory, no significant loss of potency occurs, even after exposure for one week. When similarly exposed in an atmosphere of 60 per cent. relative humidity at 20° C., the penicillin content is unchanged after fourteen days. We feel that the point is worthy of mention, as all experimental work has indicated clearly that penicillin, when incorporated in dry gelatin, possesses a notable stability—a stability that is difficult, if not impossible, to obtain by other means.

Yours faithfully,
p.p. Carnegie Bros., Ltd.,
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New Year GREETINGS

In reply to our invitation we have received from the leaders of the professional, retail, wholesale and manufacturing organisations of the drug trade the following New Year greetings messages:—

Faith in our Craft
From the PHARMACEUTICAL SOCIETY OF
GREAT BRITAIN

My New Year wish for all engaged in pharmacy is for health, happiness and prosperity, and I think this can best be achieved if, collectively, we have courage and faith in our craft. So let us view the coming year with confidence, and by service justify that confidence. To this end we have an added incentive in being an integral part of the National Health Service.

H. Clement Shaw, President.

Change of Practice in Scotland
From the SCOTTISH DEPARTMENT, THE PHARMACEUTICAL SOCIETY OF GREAT BRITAIN

THE Scottish Department sends warmest greetings to all pharmacists in Scotland at this important time in pharmaceutical history. The changed conditions brought history. about by the new health service have resulted in a change of practice in Scotland and an inevitable diminution in private dispensing; but, as we confidently expected, pharmacists are proving equal to the demands made on their skill. Modern prescribing and treatment have brought the art of dispensing into a position of importance which brings with it an enhancing of the prestige of the profession. Members north of the Tweed will unite in sending seasonable greetings to their brother members in the South, and to all pharmacists throughout the world. Greetings also to Dr. David McCall, the recently appointed Resident Secretary to the Scottish Department, who is energetically coping with heavy tasks, as well as to his predecessor, Dr. Joseph Tait, in his retirement,

C. G. Drummond, Chairman.

Have We Already "Turned the Corner?"

From the PHARMACEUTICAL SOCIETY OF NORTHERN IRELAND

It gives me particular pleasure to have this opportunity of sending a seasonal greeting,

not only to my Ulster colleagues but also to our pharmaceutical friends in other countries. It might perhaps be considered unfounded optimism if I were to suggest that we have already "turned the corner" ir our journey to complete stability in com-mercial circles, but I am sincerely hopefu that the progress which has been made ir our profession during the past year will be a sure indication of even better times ahead We have, I feel, passed the initial problem: stage in the launching of the new Nationa Health Service scheme, and I believe tha the future success of this important con tribution to the health of our people will in no small way be assured by the co-operative effort of each and every pharmacist Sincere good wishes for 1949.

Harry H. Cowzer,

President.

Realisation of Cherished Ambitions

From the PHARMACEUTICAL SOCIETY OF IRELAND

At this time of the year it is customary to recall those friends who are separated from us by distance and time; it is customary too, to hope that the New Year will bring realisation of cherished ambitions. By the courtest of the Editor of The Chemist and Druggist I am enabled to exercise my privilege and pleasure in sending greeting to Irish pharmacists at home and abroad and to express my hope that all their dream will come true. On their behalf and on behalf of the Council of the Pharmaceutica Society of Ireland I extend the warmes good wishes for 1949 to our sister Societies

P. A. Brady, President.

The Advancement of Retail Pharmacy

From the NATIONAL JOINT INDUSTRIAL COUNCIL FOR RETAIL PHARMACY

I HAVE pleasure, as Chairman for 1940 in responding to your invitation to extended New Year greetings to all those whose conditions of employment are covered by the Joint Industrial Council. May I take this opportunity on behalf of the employer side of the Council of thanking everyon

the DRUG TRADE rom

r the admirable way they have survived e test of the introduction of the National ealth Service. The National J.I.C. for etail Pharmacy, by reason of the inclusion a "fair wages" clause in the chemists' intract, has become important and its desions can have a far-reaching effect. It therefore, desirable that every decision tould be carefully considered from the bint of view of the advancement of retail harmacy. We must be sure of the effect bon retail pharmacy of the introduction of .H.S. before making any radical changes in e current J.I.C. agreement. We cannot, the present time, correctly assess the langes that are taking place in retail pharacy. That there must be a debit as well as credit side of this upheaval in the supplyg of medicines to the public is obvious, nd until things have settled down, it is not ossible to assess the results with any accury. Nevertheless, in the meantime, I wish l pharmacists, whether proprietors or not, happy and prosperous New Year.

G. A. Mallinson,

Chairman.

Valuable Contribution to Health rom the CHEMISTS' AND DRUGGISTS' SOCIETY OF IRELAND

ARMEST greetings to all my confrères in reat Britain, Eire, and overseas. We have en many changes in the last year, and for e pharmacist, the outstanding one is the finite recognition of pharmacy as a prossion. Never before has the compounding id dispensing of medicines been so clearrecognised as the proper function of the narmacist in the national economy. bes seem now that the time, study and kacting technical knowledge required to ptain the qualifying examination were stified, and the introduction of the new harmacopæia with its latest developments medicinal preparations will certainly ford greater opportunities for excercising at knowledge in the practice of our pro-This concentration on our own ecial work should mean greater efficiency, eater technical skill and consequently a ore valuable contribution to the health of e community. Fred Storey,

President.

Relations with Pharmacists Have Been Most Cordial

From the EXECUTIVE COUNCILS' ASSOCIATION (ENGLAND)

THE local Executive Councils established under the National Health Service Act have been entrusted with the task of organising and administering medical, dental, and ophthalmic services for the whole population. The initial problems and difficulties have called for much patience and hard work, and it has only been with the co-operation of the various professional organisations concerned that success has been so largely achieved during 1948. In this respect relations with pharmacists have been most cordial, and their goodwill has been a source of much encouragement to those responsible for building up the new services. In sending New Year greetings to pharmacists throughout the country I express the confident belief that with their continued co-operation, in common with that of other professional bodies, Britain will long maintain the lead given to other countries in the field of national health services.

Henry Lesser,

President.

Activities in Pharmacology

From the WORSHIPFUL SOCIETY OF APOTHECARIES OF LONDON

To the readers of THE CHEMIST AND DRUG-GIST the Worshipful Society of the Art and Mistery of Apothecaries of London sends, as always, its New Year greetings and best wishes. The activities in pharmacology and pharmacy during the year have been very great indeed, including the introduction of large numbers of new drugs such as the anti-histamine series and an extension of the use of antibiotics such as penicillin and streptomycin. Again, a newcomer in the form of Chloromycetin has conquered one of the greatest threats to life in the Middle and Far East, namely various forms of typhus. The Society has again awarded its Gold Medal in Therapeutics for chemotherapy and on this occasion to Sir Lionel Whitby, whose pioneer work established the sulphonamide treatment of the pneumonias.

E. C. Dodds,

Master.

A Motto for 1949

From the GUILD OF PUBLIC PHARMACISTS It is again my privilege to send a New Year's message to all hospital pharmacists. The past year has seen the inauguration of the National Health Service: for some pharmacists this has meant considerable change; others have not yet felt its full effect. It is to be anticipated that still further changes will come in organisation, in conditions and, with the rapid advance of medical science, in new outlets for pharmaceutical skill and knowledge. Every pharmacist should seize each opportunity that presents itself and use it for the fullest benefit of his fellows. Fullest co-operation and support for those who seek and strive for the betterment of the profession and the service should be the motto for 1949.

"Wisely Improve the Present" From the NATIONAL ASSOCIATION OF WOMEN PHARMACISTS

David Currie,

Président.

ONCE again it is my privilege and pleasure to send New Year greetings to all pharmacists. We shall enter 1949 with the experience of six months' work under the National Health Service. The increased number of people seeking medical attention and the shortage of pharmaceutical personnel make it quite clear that much hard work lies before us. It may be that some of us are finding that the new set-up is not panning out as we had hoped. It is inevitable that new difficulties and fresh problems will arise in our daily life. Let all this stimulate us to tackle the problems today, for they are our responsibility. As pharmacists, I feel we should do well to enter the New Year with the following words of Longfellow in mind: "Look not mournfully into the past. It comes not back again. Wisely improve the present. It is thine.

Dorothy M. Jones.
President.

Greetings to World Pharmacy Students

From the BRITISH PHARMACEUTICAL STUDENTS'
ASSOCIATION

On behalf of the executive of the B.P.S.A. I should like to convey most sincere New Year greetings to pharmaceutical students, apprentices and all connected with pharmacy, throughout the world. May success reward their efforts in 1949 and the years to follow. During 1948, with the ideals of our founders in view, B.P.S.A. has been active in an attempt to form an International

Pharmaceutical Students' Federation. T support of the F.I.P. has been pledged at it is hoped to hold the first conference I.P.S.F. in 1949. The future of the pharmaceutical profession lies in the hands these "Future Pharmacists," so I plead to your active support in this new ventual Let the pharmacists of the future be proof their profession's contribution to to "United Nations."

7. A. Box, President

Ever-increasing Demand for British Chemicals

From the ASSOCIATION OF BRITISH CHEMICA MANUFACTURERS

On behalf of members of the Association British Chemical Manufacturers, I send all our friends at home and abroad greeting and best wishes for 1949. For the chemic industry 1948 has been a year of stead increasing productivity from which health services, agriculture and the arts a industries using chemical products ha all benefited. In addition, the volume direct export trade expanded and, towar the end of the year, closely approached target of £8.05 million of exports month set by the Board of Trade. result has only been achieved by strenuc efforts to overcome the uncertainties a difficulties which have continued to be Inability to obtain new plant as quic as we would wish has precluded us from immediately attaining the level of prodtion necessary to satisfy all requirement H. 7ephcott.

Initiative and Determined Effor From the PHOTOGRAPHIC DEALERS' ASSOCIATION

Chairman

Presiden

AGAIN I welcome the opportunity of sering, on behalf of the National Council the Photographic Dealers' Association, best of good wishes for 1949 to all friends associated with pharmacy. I h heard that pharmacists are now very mi State servants, and as such it may be t I should have sent these greetings in ble letters, in triplicate, and marked "pas to you, please." Seriously, however, prosperity and the happiness of the coun and that really means of the man in street, is not yet very apparent and it certain much initiative and determin effort must be exercised by each and al Britain is to regain its standard of livi its freedom of person and welfare and h piness which should be widespread. some of this happiness reach us all in 19 Alfred 7. Caithness,

Co-operation of all Sections of the Trade

rom the NATIONAL PHARMACEUTICAL UNION AM delighted to be able, once again, brough the medium of the C. & D., to end seasonable greetings to all who are ngaged in the drug trade. That there rould be growing pains during the early ages of the National Health Service no ne denied, but thanks to the co-operation f all sections of the trade, these have been duced to a minimum so far as the pharnaceutical service is concerned. A special reeting to my fellow members of the Vational Pharmaceutical Union who connue to cope valiantly with increased disensing business, staff difficulties-and red ape. Good wishes particularly to those harmacists it was my pleasure to meet uring the Working Party tour. How gratiying it was to see that, at that early stage, hey were making preparations to provide he public with an efficient service. May he year 1949 be a happy and prosperous ne for you all.

> G. H. M. Graham, Chairman.

Products, Therapeutically Sound and Reasonably Advertised

From the CHEMISTS FEDERATION N common with other bodies in the drug rade the Chemists Federation entered ipon the year 1948 with some uncertainty, s it was not known how the extension of he National Health Service would operate. The turn of events has shown that there s still great scope for the work of the C.F. Council. By the voluntary agreement of ts members, the Federation will continue to uild up in the C.F. list a range of prolucts, therapeutically sound and reasonably dvertised, which will reach the public hrough the retail pharmacist. To all mempers-manufacturers, wholesalers and retailers—I extend my thanks for their loyal help and support during the past year. During he coming year the effect of the raising of he standards of the Federation should become apparent and it is hoped to publicise the aims of the movement and the value of the work which it is doing for the community as a whole. In the name of the C.F. Council, I send greetings to all members of the Federation and to the readers of THE CHEMIST AND DRUGGIST, with sincere good wishes for the New Year.

R. Campbell Feather,

President.

Events of Major Importance From the ASSOCIATION OF BRITISH PHARMACEUTICAL INDUSTRY

Two events of major importance in pharmaceutical history have occurred in 1948the beginning of the National Health Service and the coming into force of a new British Pharmacopæia. In both of these happenings the members of the A.B.P.I. have played their part. In supplying the requirements of over 15,000 retail pharmacies and more than 1,000 hospitals, manufacturers and wholesalers have maintained the traditions which are inherent in the pharmaceutical service as a whole. is not perhaps generally realised that many of the founders of organised pharmacy in this country were also founders of manufacturing and wholesale houses. The standards of purity and technical efficiency of the industry are reflected in the monographs of the new B.P., in the production of which members of the A.B.P.I. have played a prominent part. With the continued co-operation of our members and the goodwill that exists in pharmacy as a whole, we enter the New Year with confidence that this important service will be properly fulfilled.

C. A. O. Rideal, Chairman.

Attend Meetings . . . Support Leaders

From the SCOTTISH PHARMACEUTICAL FEDERATION

In sending greetings to my fellow pharmacists for 1949, I do so with the hope that they have now got over the initial trials and tribulations of the new health service. No doubt it would have been in the interest of those who are working the scheme had it been postponed until July 1949, as by that time many of the worries from which we are suffering would probably have been ironed out. Nevertheless, I feel that the new service gives the pharmacist an opportunity to extend the professional side of his business by supplying such articles as trusses, elastic hosiery, etc., and I suggest that pharmacists would be well advised to get tuition in fitting trusses and arrange for a female member of their staffs to receive instructions regarding the fitting of hosiery, thereby recovering business which has been drifting into less professional channels. enjoin all pharmacists to attend meetings, support their leaders who are endeavouring to put pharmacy "on the map" and continue to give of their best in the new service. With every good wish,

Charles A. Buick, President.

Policy Will be Vindicated From the PROPRIETARY ARTICLES TRADE ASSOCIATION

THE past year will always be remembered as a landmark in the history of pharmacy in that it marked the introduction of the National Health Service and opened a new era for all engaged in the profession. The opportunity of making the service an unqualified success has been given to the trade and the heavy calls made upon the resources of all three sections are being met with cheerful enthusiasm. During the year, the practices relating to re-sale price maintenance have again been the subject of investigation, and it is hoped that, when the Committee of Inquiry's report is published, the Association's policy will be fully vindicated. The principles on which the P.A.T.A. was founded are still as important today as at any time in its long history, and the present record membership bears witness that this is fully recognised. To all members — retail, wholesale and manufacturing—I extend my best wishes for a happy and prosperous New Year.

N. E. Forster,
President.

Eliminated Price Cutting From the IRISH DRUG ASSOCIATION

In sending greetings and best wishes to all members of the Irish Drug Association for a happy and prosperous New Year I take the opportunity of thanking them for their loyal support of their Committees' activities. In the formulation of policies and in negotiations the Association speaks for, and acts on behalf of, almost every chemist in Eire, in the confidence that its decisions will be loyally supported. The mutual trust which has grown up in the past years, together with the vigilance of the Association's officials, has practically eliminated price cutting and other malpractices.

John J. Roche, President.

Standards of Purity and Reliability From the PROPRIETARY ASSOCIATION OF GREAT BRITAIN

THE Proprietary Association of Great Britain, in extending a New Year greeting to members, friends and business associates at home and overseas, desires to convey the wish that 1949 may be for all of them a period of prosperity. For many of us 1948 has been a year of strenuous and continued endeavour, not entirely free from anxiety,

but we venture to say that the close liais which exists between all those engaged the industry has been a source of encouragment, and has helped to overcome t difficulties which still hamper our effor to achieve free and unrestricted trade. The record export sales during 1948, and t continued demand for our products home, are irrefutable evidence of the estee in which British proprietary products a held—due to the high standards of puriand reliability to which the concerted effor of all those engaged in the industry habeen and will continue to be directed.

F. A. S. Gwatkin,

Chairman.

Problems and Difficulties to Solve

From the ULSTER CHEMISTS' ASSOCIATION SEASONABLE greetings and good wishes all pharmacists in Great Britain and t Dominions, and in particular to those Northern Ireland, including assistants at apprentices—the pharmacists to be. A ye of heavy work has passed with the introdution of National Health Service, and t coming year will have its own problems at difficulties to solve in getting the service into full working order; nevertheless we allooking forward with hope and confident Pharmacy is now firmly fixed on a full professional basis, and it is up to us all put everything we have into the service the public, so as to justify our status.

Charity Elizabeth Culbert.

President.

Excelled in Producing Attractive Articles

From the BRITISH BRUSH MANUFACTURERS' ASSOCIATION

Ir gives me great pleasure to be able to set greetings to all chemists and druggists. For very many years it has been the paramou aim of British brush manufacturers to pure duce the brush that is both required at desired by the user, whether it be a smudainty toilet brush or a large roller for particles of a machine. In every phase of brush making the specialist's knowledge is broug to bear, and the makers for the chemis trade have excelled in producing attractionarticles in which usefulness and durability have not been sacrificed to appearant Manufactures trust that supplies have be adequate in spite of the very high expetanget which they have maintained.

Davis Burrow.

President.

Enterprise of the Chemical Merchant

From the BRITISH CHEMICAL & DYESTUFFS TRADERS' ASSOCIATION

po most gladly send the season's greetings members of the Association and to all iends in the chemical industry. her time has there been a greater need r the united effort of all sections of the ading community. Whilst it would serve purpose to minimise our difficulties and ustrations, we can at least begin the new ar fortified with the knowledge that exorts of chemicals during 1948 exceeded e most optimistic expectations. The enterise of the chemical merchant has contriited substantially to the development of ir foreign and Empire trade, and it is to is enterprise we must look to establish d extend those overseas markets which e so vital to the welfare of our country. he merchant has maintained the efficient stribution of chemicals at home and the erformance of this service will be facilited by the lifting of official controls. My ood wishes to you all, and may prosperity tend your efforts.

Victor Blagden, President.

he Great Task of Reconstruction From the CHEMICAL WORKERS' UNION

HE Executive Council, officers and memrs of the Chemical Workers' Union
nd greetings and best wishes for the comg year to all those engaged in the manucturing, wholesaling and retailing of
ugs and fine chemicals. We wish you all
od health and prosperity for the comg year. 1949 is likely to be a decisive
ar for the free peoples of Europe and
e world, and in the great task of reconruction the drug and fine chemical indusy will, of necessity, play a vital part.

Bob Edwards.
General Secretary.

Problems for Employed Pharmacists

From the ASSOCIATION OF SCIENTIFIC WORKERS

IANY are the protests from employee pharacists that their economic status should be used to a level commensurate with the rofessional service which they render to the public generally, he present year departs, however, with ttle improvement in professional trade nion organisation. The commencement of the National Health Service has given rise

to many difficult problems for employed pharmacists and the need for appropriate organisation is greater than ever before. In sending New Year greetings to all pharmacists and allied scientists, the Association of Scientific Workers invites all those eligible to join in its work for the advancement of their professional and economic interests.

7. H. Humphrey
Chairman, Medical Sciences Committee

Representation of the Pharmacist Employee

From the UNION OF SHOP, DISTRIBUTIVE AND ALLIED WORKERS

In associating myself with a continuity of those greetings which the CHEMIST AND Druggist conveys annually to all associated with the chemical and allied industries, may I express best wishes for 1949 to all engaged in the pharmaceutical, drug and allied trades, and in special degree to our trade union members who have so loyally responded to the calls made upon them. In the field of research, in the works, in distribution, and in dispensing under N.H.S., our members are to be congratulated for the important part they have played in the nation's effort. My Union maintains its attitude towards the right of representation of the pharmacist employee on all committees and councils connected with the health service pharmaceutical requirements.

Walter Padley,
President.

FIFTY YEARS AGO A Review of 1898

(From the C. & D., December 31, 1898) THE year now ending has undoubtedly been a busy one, and in some respects an important one. The figures 1898 will be linked in the future with a British Pharmacopœia, and also with a British Pharmacy Act. . . Relations of pharmacists to the B.P. are to be more satisfactory than hitherto-first, in respect to the fact that the Pharmaceutical Societies of the United Kingdom are to assist in the revision; second, the work is to be commenced immediately; and, third, opportunity will be afforded for preliminary criticism. In pure science related to pharmacy little has been brought to definite conclusion in this country during the past year, but he is blind who does not perceive that organic research is growing with us, and that progress is being made towards the elucidation of the complexity of the molecules of camphor and alkaloidal bodies.

THE MARKETS IN 1948

A general improvement in supplies and a progressive removal of control in the home trade have occurred during 1948, but exporters continue t be faced with difficulties caused by restrictive governmental policie

THE third post-war year of trading in the markets has ended without solving many of the problems that have faced manufacturer and merchant. Austerity practised in almost every country in the world except those on the American continent, taken with, and to some extent on account of, the scarcity of currencies, has created a condition of stalemate. It remains to be seen whether the various schemes in hand to overcome the deadlock will bring about a re-establishment of multilateral trade. Whereas Britain's entrepôt trade in botanical drugs and essential oils during 1948 remained at a comparatively low level, by comparison with the previous year, gums and spices exports were greater in 1948 than in 1947. Expanded output of the majority of British-produced fine chemicals has made supplies more easily available in both the home and export markets, and exports have accordingly grown. Difficulties resulting from the restrictions imposed by many countries on the issue of import licences and, on this side, in obtaining export licences have been experienced by all sections of the trade.

The First Quarter

In January a cut in the allocation of phenol to chemical manufacturers seriously affected supplies of aspirin and the salicylates, while chemical output generally was held up by shortage of soda ash. The market was firm, increases in price being reported for formaldehyde, phosphates, hydroquinone, metol, sulphanilamide, lactates, pilocarpine and iodides. A reduction was reported for calamine. Already a falling-off of demand, especially domestic demand, was apparent, although at the time no special significance was attached to it, most people regarding the decline as the normal lull in activity which occurs at the opening of the year. At the end of January the devaluation of the French franc ocurred and there was some speculation about its effect on exports of chemicals from France. It was considered by most observers that rapidly rising costs of production would offset any advantage gained by the new exchange rates.

The second and third months of the year saw the output of salicylates (particularly aspirin and methyl salicylate) severely re-

stricted. It was announced, however, the soda ash production was to be speeded up A reduction in Rochelle salt prices fo lowed easier conditions in argols. Lowe prices reported for emetine, ichthammol an pilocarpine were offset by a slight increas in chloroform and in lithium salts, while the first of two increases during the year i the controlled prices of zinc oxide w announced. Glycerin was in short suppl because of the demands of other industrie and higher costs of molasses brought about an increase in industrial alcohol and certain other solvents derived from that source Acetone, however, was at a reduced pric In March, difficulty was first experience in exporting to India, owing to the India Government's import policy. On March 1 industrial and trade organisations submi ted joint proposals to the Chancellor of th Exchequer for a voluntary limitation prices. It was apparent that the seller market was gradually coming to an en and efforts were made to reduce costs increasing production.

Botanical Drugs Firm

A firm tone characterised the botanic drugs markets at the beginning of the year Cascara sagrada was offering at aroun 265s. to 270s. per cwt., duty paid, and a though little business was reported at the prices there were indications that the ma ket might harden if any appreciable i quiry was received. Buchu short roun were difficult to find on the spot, and the were no offers of new-crop leaves. offers from origin were being made t quality of samples was poor and the price high. Importers were not disposed to ta the risk of bringing in supplies on a gua antee of "fair average quality." Throug out the year the market remained firm a supplies of bold short-round leaves on sp were short. In January, agar strip new arrived from the Far East was attracti buyers at 20s, per cwt., duty paid, but he again much of the material was inferior quality and badly graded. There were sho ages of Anatolian liquorice root and of s rax owing to the then policy of the Turki Government not to export to the sterli area. Other features of the first month the year were a firm forward market Cape aloes and for balsams. A slight s

trade circles occurred when it was anunced that Brazil was to resume the exrtation of Matto Grosso ipecacuanha, but was understood that import licences buld only be granted on the condition that pplies were for emetine manufacture. A rm February brought an easier tone in u and copaiba balsams. Menthol began still continuing decline in price, and reports of the Brazilian product were only rmitted if payment was made in dollars in a convertible currency; small quanies of Chinese were sold at high prices comparison. Gentian was quoted at ver prices following the franc devaluan. A small supply of Shensi rhubarb was ering on spot at a high price without ating much interest. In March and early pril the markets were unusually quiet and ices of a wide range of commodities, in-iding Nicaraguan and Colombian ipecuanha, Cape aloes and quince seeds, mboge, gentian, senega, squill, traga-nth, and most waxes, began to decline. was evident that the mild winter, preled by heavy buying in the autumn of 47, was responsible for a rapid fallingin home-trade demand while the entrêt trade was suffering from shortages of rling as well as of dollars in many parts Europe. As for commodities originating hard-currency countries, business at the d of the first quarter was almost at a indstill. Later in March, the Board of ade revoked its open general import ence for liquorice juice, possibly because the large quantities of American block ice that were being imported.

t-back in Trade

Early in April the collapse of the sellers' arket for certain chemicals became evi-nt, and competition from Dutch and her Continental makers was being very enly felt. Lower prices were announced st for caffeine and then for theobromine mpounds. Later in the month rates for linine were reduced. Although makers ere receiving rather better allocations of nenol the salicylates market remained m, and in May small increases were anbunced in the prices of aspirin, salicylic id and sodium salicylate. Cream of rtar was reduced by 28s. per cwt. but, 1 the other hand, a small increase was ade in citric acid prices (and later in the tes for citrates). Mercury salts were reaced by about fourpence per lb. trlier increase in the cost of raw material impelled makers to put up the price of her, but chloroform became a little cheaper. Atropine was an easier market. The relaxation of administrative control of lactic acid and lactates was announced at the begining of June; output of these products had caught up with the current demand. The home market for pharmaceutical products saw a period of hand-to-mouth buying which lasted for several months.

The majority of crude drugs continued in poor demand through the spring and early summer and the markets took on an easier tone. The heavy buying that had taken place in the autumn of 1947 and the mild winter was contributory, and probably the principal factor influencing the market. Brazilian menthol prices fell sharply and the entrêpot trade became restricted as it was obligatory to make payment in dollars or some convertible currency. Later there was some recovery in menthol, reflecting a firmer market at origin. Comparatively little interest was displayed in cascara sagrada or senega although there were reports that crops were not expected to be large. Imports of the latter were negligible. A good export business in agar was done with Continental countries.

Chemical Exports Maintained

Increased inquiry for pharmaceutical chemicals from home trade buyers early in July was thought to herald a general improvement in trade. Prices were fairly stable during the summer months and the supply position generally improved. In export markets increased competition was being faced from foreign producers although in some instances the reported lower quotations appeared not to be firm offers and exports as a whole were well maintained. Trade with India was stimulated when many chemicals were put on general licence by the Indian Government. During the third quarter reductions were made in a wide range of products including tartaric acid, acetanilide, amphetamine, terpineol, phenobarbitone, caffeine and When September came the home market was more active by reason of the demands of the National Health Service.

Inquiry for botanical drugs was still lacking, and the markets were again showing indications of weakening, with most dealers anxious to make headway. Ipecacuanha was reported firmer in the forward market at the end of June and Indian products such as cardamoms, dill and fenugreek seeds were quoted at high prices at origin. A good crop of Belgian chamomiles was expected and it was thought that prices would be not above half those of the previous sea-

For some time import licences were not being granted for liquorice juice from Italy and Turkey but imports from Syria, Iran and Iraq were permitted. prices were forecast for ergot with reports from Portugal of storm damage to the rye crop. Supplies on the spot became much reduced and the market developed a firmer tone. A slight recovery was noted for senega towards the end of July, coinciding with an increase in export inquiry, but this did not last long. A good entrêpot trade was reported in menthol. The tragacanth market was showing an easier tone, with business in the better grades small. Carnauba was firmer owing to the Brazilian decision to fix "floor" prices for it. Early in September a brisk demand for cardamoms reduced spot holders' stock. Business in senega continued to be of little account, with sellers offering root at 9s. 6d. per lb. on the spot. A good business was done in the better grades of Alexandrian senna pods. and later arrivals were of better quality. An easier tone was noted for tolu and Peru balsams.

Essential and Expressed oils

Trade in essential oils throughout the major part of the year was most disappoint-ing. The ban on luxury imports imposed by many countries, plus the high rate of purchase tax at home, greatly reduced the volume of business. However, prices of perfumery oils did not fall as rapidly as might have been expected, for the reason that supplies of a number of oils were short. A cyclone over Réunion early in the year was reported to have destroyed a large part of the crops, and this created a firm market for geranium and other Bourbon oils. Owing to the disturbances in Java, citronella and other oils from that source continued to be strong markets. The general standard of quality of oils did not reach that of pre-war years. The poor yield from seeds available to British distillers of coriander and dill oils accounted for the high prices in those products. French lavender and lavandin oils declined in price as a result of the two devaluations of the franc. Prices of oils obtained from hardcurrency countries (for example, Brazilian sassafras) remained steady to firm throughout the year. The markets for star anise, cinnamon, eucalyptus and other medicinal oils eased gradually, but in the concluding months of the year a firmer tone developed for anise (probably because of uncertainty of supplies from China) though this was not sustained, while eucalyptus prices declined with an absence of any appreciable inquiry. Supplies of the majority of isolate and also of synthetic aromatic products in proved as the year advanced and price decreased. The following essential of remained in the scheme of distribution of the Essential Oils Control at the end of 1948: Bergamot; birch tar; bois de rose lemon; mandarin; peppermint (arvens and piperita); petitgrain (Paraguay pimento leaf; spearmint; linaloe; winte green; wormseed; and sweet orange ar grape-fruit, from hard-currency sources

Olive oil supplies became more free available during the latter half of 192 and importers' prices fell, first from 518. 293. 8d. per gall., and later to 263. 2d. p gall. Imports came principally from Greec Spain, and north Africa, and the quali of supplies improved greatly. Sweet almor oil and apricot kernel oil prices declin when the shortage of olive oil became east Imports of teaseed oil were made fro Hong Kong during the year and quotatio for this oil also fell although not, as he been expected, to below the olive oil prices

The improvement in trade in pharm ceutical chemicals continued througho the autumn. Such products as caffeir phenobarbitone, benzyl benzoate, salid lates and bromides were in good reque A substantial export call was received fro India, Egypt and Scandinavia. The co trolled price of liquid glucose was rais while two increases were announced in t rates of zinc oxide owing to advanin the cost of metal. Bismuth metal, ho ever, was reduced in price, and this v followed by an all-round reduction in b muth salts; an increase in allocations metal to manufacturers made supplies bismuth products more freely availab Other price changes during the last qu ter of the year included decreases in pri of Rochelle salt (and seidlitz powders), t taric acid, caffeine citrate, theobromi amphetamine and nicotinic acid. Phenoly thalein and ephedrine prices were rais owing to higher costs of production.

In October, export inquiry increased Cape aloes, Tinnevelly senna and Chin rhubarb, and a moderately good busin was done. More interest was displayed copaiba and Peru balsams, and in g acacia and myrrh. Cascara sagrada a senega remained dull and easy marked African ginger was firm on the spot a prices were slightly higher in the forwamarket. Cardamoms received a brisk port demand, which later cleared spot siplies of all grades from the market. Pri

cardamoms in India were high, much pove importers' ideas of values. It was arned that Sweden, a principal consumer, as buying direct, and this was understood be the reason for the strong primary arket. More activity was apparent in uchu and bold short rounds were becoming ifficult to find on spot. Although the maret was fairly easy at origin there was little rward business in ipecacuanha at the benning of the autumn; later, however, an icrease in demand was responsible for igher prices for this drug. Portuguese er-ot was in good request and the shipment arket became very firm for a short period.

pice Markets Firm

Offers of rhubarb from China were few, and brisk demand was received, the spot maret becoming firmer. Papain prices slowly eclined. Spot quotations for Chinese cam-hor were lower although the issue of im-ort licences was suspended. The announceent of the resumption of synthetic cam-hor was made shortly afterwards. French entian, after a short period of easiness, came firmer, with replacement stocks uoted several shillings per lb. more than rmer prices As the year closed menthol as receiving a brisk export call; offers om Brazil (which was understood to have ad a satisfactory peppermint crop) were ring made at low prices. The markets for nillies, cloves and Jamaica ginger were nding firmer.

In the table below quotations are shown r botanical and other drugs, of comparple quality, during January and Decem-er. It will be noted that in the majority products there has been an appreciable ecline during the year.

Соммориту	JANUARY	DECEMBER 1948	
COMMODITY	1948		
gar, strip, per lb loes, Cape prime,	19s.	175.	
per cwt.	165s.	115s.	
per cwt.	67s. 6d.	65s.	
alsams: Canada, per lb.	18s.	19s.	
Copaiba, per lb.	8s.	5s.	
Peru, per lb.	6s. 3d.	5s.	
Tolu, per lb.	19s. 6d.	14S.	
elladonna, root, per lb. uchu, short rounds,	5s. 6d.	4s. 6d.	
per lb. enzoin, Sumatra block,	4s. 4d.	. 4s.	
per cwt.		£16	
ismuth metal, per lb alumba, natural root,	IIS.	10s. 9d.	
amphor, Chinese, 4-oz.	67s. 6d.	77s. 6d.	
tablets, per lb	11s. 6d.	8s. 6d.	
amphor, refined powder	10s. 6d.	7s.	

Сомморту	JANUARY 1948		DECEMBER 1948	
Cantharides, Chinese,				
per lb.	ı ıs.	6d.	8s.	3d.
Cascara sagrada, per cwt. 1946 peel 1947 peel	275s.		2005.	
1947 peel	270s.		200s.	
Current crop	' -		195s.	
Cascarilla, quills, per lb. Chamomiles, Belgian,	ıs.	8d.	Is.	5d.
Cloves, per lb Zanzibar	125.		48.	
Zanzibar		rod.		rid.
Penang	3s.	6d.	25.	9d.
Cinnamon, Ceylon, oooo, per lb.	3s.	9d.	2S.	gd.
Colchicum corm, Jugo- Slav, per lb	gs.	9d.	6s.	
Dragons blood, No. 1,	_			
per cwt. Ergot, Portuguese, per lb.	£75		£65	C 1
Gentian, French natural,	4s.	4½d.	5s.	6d.
Gum acacia, Kordofan	gos.		6os.	
sorts, per cwt	70s.	6d.	66s.	6d.
Henna, Sudan, per cwt. Ipecacuanha, Nicaraguan,	125s.		85s.	
per lb.	28s.	6d.	23s.	6d.
Liquorice root, Anatolian natural, per cwt Mace, West Indian blade,	56s.		47S.	
per lb.	75.	зd.	6s.	9d.
Menthol, Brazil, per lb. Myrrh, Aden sorts,	48s.	6d.	458.	6d.
Nux vomica, Madras,	£14 1	os.	£12	
per cwt.	40s.		40s.	
Orris, Florentine, per cwt. Papain, East African	185s.		130s.	
No. 1, per lb Pimento, per lb Quassia, chips, per cwt.	315.		195.	
Pimento, per lb	IS.	2½d.	ıs.	2½d.
Quince seeds, Cape,	40s.		35s.	
Rhubarb, common round,	5s.	9d.	4S.	3d.
per lb. Sarsaparilla, Jamaica	6s.		4s.	6d.
Sarsaparilla, Jamaica native red, per lb	25.	6d.	ıs.	$10\frac{1}{2}d$.
Sandarac, per lb Seeds: Anise, Cyprus,	6s.		5s.	9d.
per. lb. Caraway, Dutch	ıs.	rod.	ıs.	5½d.
per cwt. Celery, Indian,	112s.		120s.	
per lb. Coriander, Argen-	Is.	3d.	ıs.	2d.
tine per cuit	47s.	6d.	400	
tine, per cwt. Senega, per lb	115.	9d.	40s. 8s.	6d.
Senna: Tinnevelly pods, No. 1 per lb. Alexandrian, hand-	ıs.	4d.	ıs.	4d.
Alexandrian, hand- picked, per lb.	5s.	9d.	5 s.	9d.
waxes: Bees', Dar-es-				
Salaam, per cwt.	385s. 400s.		335s.	
Carnauba, fatty	4005.		390s.	
Carnauba, fatty grey, per cwt.	5155.	- 4	475s,	

TRADE REPORT

Spot quotations for pharmaceutical chemicals represent the prices for wholesale quanti ties of standard quality. Prices of crude drugs and essential oils vary as to brand or grade

28 Essex Street, W.C.2, Dec. 29

At the opening of the markets after the Christmas holiday trading was small and most products steady. No price alterations were reported for Pharmaceutical and were reported for l'harmaceutical and Fine Chemicals during the past week. The volume of inquiry for Crude Drugs has been light, but it is thought likely in trade circles that an increased request for seasonal articles will occur if the colder weather returns. Prices of Mercury have been a lyanced, as from December 20, from £15 per flask to £18 10s., ex warehouse. Shipment prices are now £17 17s. 6d. per flask, c.i.f. U.K. The SPICES market remains firm. A moderate request is being received for Essential Oils.

Pharmaceutical Chemicals

AMPHETAMINE.—Quotations for Base and SULPHATE are from 115s, to 120s, per 1b. d-AMPHETAMINE is priced at 17s, per oz. In good demand.

BENZYL BENZOATE. — B.P. quality is quoted from 4s. 61. to 5s. per lb., according to quantity; perfumers' quality, 5s. to 5s. 6d.

BISMUTH SALTS.—A progressive provement in supplies reported. Makers' provement in supplies reported. Figure 18 page 12s.; Tribromphenate, 23s. 3d.

Boric acid.—Current rates for ton lots of B.P. quality are: granulated, £60: crystal, £61: powder, £62. Commercial grades, £8 per ton less. Packed in 1 cwt. bags, deliverel carriage paid in Great Britain, in 1-ton lots and upwards. Terms quoted do not apply to Northern Ireland.

CAFFEINE.—Makers' prices per lb. are: ALKALOID, anhydrous, from 34s. 6d. to 39s. 6d., and B.P. from 32s. 6d. to 37s. 6d. CITRATE, B.P.C., 19s. to 24s.; SODIUM EENZOATE, B.P., 21s. 6d. to 26s. 6d.; SODIUM SALICYLATE, B.P.C., 22s. 3d. to 27s. 3d.; SODIUM IODIDE, 26s. to 30s. Assorted contracts may be booked (excluding coffsion sodium iodide) for not beside. ing caffeine sodium iodide) for not less than 5-cwt, lots over six months. Containers: 14-lb. tins and upwards, free; 1-cwt, kegs or cases, free for export, home trade charged extra (returnable). Carriage paid on net invoice value of £20 or more.

ETHER.—Makers' prices per lb. are:
ANÆSTHETIC, 1 cwt., 2s. 10d.: 72 lb.,
2s. 11½d. B.P., 5 cwt., 2s. 1½d.; less,
2s. 3½d. Technical, 1½d. per lb. less than
B.P. The foregoing rates are for ether packed in winchesters. I prices are 2½d, per lb. more. In 1-lb. bottles

GUAIACOLS.—Supplies are rather short Liquid quoted at from 14s. 6d. to 16s. pe lb., and crystal and carbonate, 14s. to 15s. according to quantity.

HEXAMINE.—B.P. is quoted at fron 1s. 8d. to 2s. per lb., as to quantity.

ICTHAMMOL, B.P.—Supplies in drums ar quoted from 3s. to 3s. 6d. and upwards in 28-lb. tins, 3s. 9d. to 3s. 10d.; in 1-lb tins, 4s. to 4s. 6d. per lb., as to seller.

tins, 4s. to 4s. tod. per 1b., as to seller.

Iodides.—Prices (per 1b.) of mino iodides are as follows: Ammonium, B.P.C. 7 lb., 15s. 9d., smalls, 16s. 3d.; Arseni (triiodide), 25s. 6d.; Cadmium, B.P.C. 22s.; Calcium, B.P.C., 19s.; Ethyl, 28s. Iron, B.P.C., 14s.; Lead, B.P.C., powder 18s.; Lithhum, B.P.C., 20s. 3d.; Strontum, B.P.C., 18s. 6d.; Zinc, B.P.C. 19s. 3d.; Mercuric, B.P., 7 lb., 14s. 3d smalls, 14s. 9d.; Mercurous, B.P.C., gree or yellow, 7 lb., 18s. 6d.; smalls, 19s.

Paraldehyde.—Rates for B.P. materia are as follows: 5 carboys, 1s. 5d. per lb. 1 carboy, 1s. 6d.; 24 winchesters, 1s. 7½d. 17, 1s. 8½d.; 6, 1s. 10d.; 3, 1s. 11d. per l

Phenacetin.—Nominal prices are from 5s. to 6s. per lb.

PHOSPHATES.—Makers' rates per lb. a) as follows: Sodium, B.P., 1 cwt., 6d 28 lb., 7½d. Sodium acid. B.P., crystal 1 cwt., 1s. 9d.; 28 lb., 2s. Potassiugranular, 4s. 2d.; powder, 4s. 5d. per 1 Ammonium, B.P.C., 1 cwt., 2s. 6d.; 28 lb.; 10d. per lb. Phosphoric acid. B. (Concentrated) is priced at from 1s. 2 to 1s. 3d. in carboys, and from 1s. 5d. 1s. 9d. per lb. in winchesters. 1s. 9d. per lb. in winchesters.

PILOCARPINE.-Makers' prices are u change I. Rates per oz. are: ALKALOID.-1 oz., 36s. 9d.; 4 oz., 35s. 3d.; 25 oz., 34 HYDROCHLORIDE.—1 oz., 34s. 9d.; 4 oz. 33s. 3d.; 25 oz., 32s. NITRATE.—1 oz., 34s. 3d.; 4 oz., 31s. 9d.; 25 oz., 30s. 6d.

Piperazine. — Current prices fro 4s. 6d. per oz., according to quantity.

Potassium acetate, B.P.—Fine gran lar is 2s, $1\frac{1}{2}d$, per lb. in 1-cwt. lots.

RESORCIN.—Current prices are at fro 10s. 6d. to 12s. 6d. per lb., according quantity.

Salicylic acid.—Makers' quotation f 1 cwt, is 2s. $2\frac{1}{2}$ d, per lb.; scheduled rat per lb. for quantities of 28 lb. and und 1 cwt. (containers in brackets) ar 2s. $10\frac{1}{2}$ d. (1-lb.); 2s. $9\frac{1}{2}$ d. (2-lb.); 2s. (4-lb.); 2s. 8d. (7-lb.); 2s. $7\frac{1}{2}$ d. (14-lb. 2s. $6\frac{1}{2}$ d. (28-lb.). Net one month,

Salicylsulphonic acid.—Quotations &

at about 12s, 6d. per lb.

Santonin.—Prices are unchanged. kilos, £44 per kilo; less than 5 kilos, £4 1 kilo, £46; half-kilo, £47; quarter-kilo, £ per kilo; carriage paid in U.K.

Crude Drugs

ACONITE.—Steady. Indian, on the spot quoted at 275s. per cwt.; napellus, fered at 3s. 10½d. to 4s. 3d., duty paid.

AGAR.—Kobé No. 1 strip on spot is fered at 17s. 6d. per lb., with other grades Japanese strip down to 14s. 6d. per lb., ty paid; forward, 14s. to 15s., c.i.f., minal. South African powder, in tins cases, quoted at 20s. per lb., spot.

Antimony.—Metal prices are: 99.6 per nt., regulus, £210 per ton, delivered; 99 r cent., £200; 70 per cent. crude, £165.

BELLADONNA.—Yugoslav root is quoted from 4s. 6d. to 4s. 9d. per lb. duty paid, to test; English leaves are offering at m 4s. 9d. (0.546 per cent.) per lb.

BLACK COHOSH ROOT.—Prices, ex wharf, e in the region of 1s. 10d. per lb.

Buchu.—Short rounds scarce on spot at per lb.; ovals, 3s. 6d.

CAMPHOR.—Chinese tablets are offered at om 7s. 6d. to 8s. 6d.; refined powder 3.P.). 7s.; B.B. grade, 6s. 6d.; slabs 3-lb.). 7s. 3d.; crude powder, 6s. per lb., 1 spot London, duty paid.

CASCARA SAGRADA.—Quiet. 1946 and 47 peel are offering at around 200s. per 1948 bark on spot is quoted at about vt. 1948 bark 5s., duty pai l.

CHILLIES.—Firm. Mombasa on spot. of the control of the

ips at 6d. per lb.

CLOVES.—Firm. Zanzibar, spot, quoted 11½d. per lb.; shipment, 1s., c.i.f. adagascar, spot, 10d., duty paid; shipent 8d., c.i.f. Penang, spot, 2s. 9d. to per lb.

COD-LIVER OIL.—British-produced oil of P. quality is quoted from 12s, per gall., divered in the United Kingdom.

Ergot.—Spot offers of Portuguese are at . 9d. per lb.; shipment, 5s. 4d., c.i.f. eports from origin say that new-crop pplies are exhausted but sound old-crop available at 5s., c.i.f.

Gentian.—French natural on spot is loted at from 60s. to 62s. per cwt.; sliced ot is offered at 75s., spot.

GINGER.—African on spot is quoted at s. 6d. per cwt. Jamaican No. 1 quoted : 132s. 6d.; No. 2, 127s. 6d.; No. 3, 125s. r cwt., spot.

GUM ACACIA.—Kordofan cleaned sorts on e spot are offering at 65s. per cwt.; ipment, 60s. c.if. Bleached No. 1, 125s., ot; shipment, 115s., c.if. Talha on spot, s. 6d. per cwt.; forward, 41s., c.if.

IRISH MOSS.—Steady. French select eached, 120s. per cwt.; No. 1, 105s.; No. 95s. per cwt.

MENTHOL.—Brazil on the spot is offered at 45s. per lb., duty paid; in bond, 43s.

Nutmeg.—Steady. West Indian 80's on the spot, 3s.; sound unassorted, 2s. 10d.;

wormy and broken, 1s. 8d. per lb.

SEEDS.—Prices during the past week were more or less nominal. Anse.—Cyprus, 1s. 4½d. per lb., and Turkish, 1s. 4d. per lb., duty paid, spot London. CARAWAY.—Dutch, quoted 120s. to 122s. 6d. per cwt., duty paid, spot London. CELERY.—Indian is 1s. 2d. per lb. spot London. Tiroproces is 1s. 2d. per lb., spot London or Liverpool. Coriander.—Argentine, 39s. per cwt., duty paid, spot London or Liverpool; Morocco is also quoted at 39s. per cwt., duty paid, in London. CUMIN.—Indian, 187s. 6d. per cwt., in Liverpool; Cyprus, 190s. per cwt., spot London. DILL.—Indian, quoted at 47s. 6d. per cwt., spot London or Liverpool. Fennel.—Indian, 71s. per cwt., spot London, and 70s. per cwt., quoted in Liverpool, Fenugreek.—Indian, spot London, 54s. per cwt.; Morocco in Liverpool, quoted at 55s. per cwt., duty paid.

STROPHYNTHUS.—Strady Kombé 100 per paid, spot London or Liverpool; Morocco is

Strophanthus.—Steady. Kombé, 100 per cent., spot, is quoted at 11s. 6d. per lb.

Essential and Expressed Oils

Cade.—Steady. Spanish oil on spot is offered at from 3s. 6d. to 4s. per lb., as to quantity; French is quoted at about 2s. 9d. per lb., spot.

CAMPHOR.—White oil on spot is quoted at from 2s, 6d. to 2s, 8d. per lb., duty paid; brown, shipment, 2s. 9d., c.i.f.

Caraway. — English-distilled is firmly held at 37s. to 40s.; imported, 28s. to 30s. per lb., as to quantity.

Cassia. — Spot quotations are from 13s. 6d. to 15s. per lb.; 10s. 6d., c.i.f.

Castor.—Prices are unchanged. B.P. quality is priced at £176 per ton, naked ex works. In 45-gall. drums, oil is quoted at 16s. 11d. per gall., carriage paid.

CITRONELLA.—Steady. Ceylon is quoted at from 3s. 9½d. to 4s. 2d. per lb., spot; forward, 3s. 9½d., c.i.f. Java on spot is offering at about 8s, per lb.; December-January shipment from origin is quoted at 6s. 6d., c.i.f.

CLOVE.—Steady. Quotations for English-distilled bud oil are at from 10s. 3d. to 11s. per lb., according to quantity.

Nutmeg.—Prices of English-distilled oil are unchanged at 37s. 6d. to 40s. per lb.

OLIVE.—Supplies of oil from members of the Importers' Association are made at the rate of 26s, 2d, per gall, of 9 lb., ex store, drums included. Additional charges are ad led for small quantities, according to costs of breaking bulk, containers, delivery, Prices are unchanged.

Orange.—Sicilian bitter, for shipment, is quoted at 13s. to 13s. 6d. per lb., c.i.f.; nominal spot value, 15s. to 17s. Jamaican bitter is quoted at 15s., spot. West African sweet, 6s. 9d. to 7s. per lb., c.i.f.

TRADE MARKS

(From the "Trade Marks Journal," December 15, 1948)

Shield device with a figure of a man and a bull; by Hardman & Holden, Ltd., Manchester; 665,114. For all goods, excluding chemical substitutes for camphor (1). 665,062. For veterinary substances, disinfectants, preparations for

killing weeds, vermin and insects (5).
"Bumoin"; by J. Evershed & Son, Ltd., Brighton; 667,603. For fertilisers (1).
"Lustre-Creme" and device of woman's head

(word "Lustre-Creme" disclaimed); by Kay Daumit, Inc., Chicago; B648,842. For shampoos for the hair (3).

"HALDONS"; by Osborne, Garrett & Co., Ltd., London, W.1; B663,819. "Hibro"; by Koray, Ltd., London, W.1; 666,546. For non-medicated

toilet preparations (3).

"GOLFYLM"; by Horace William Bladon, Weston-super-Mare; 664,515. For non-medicated skin

"Synilan"; by George Marshall & Co., Leicester; 666,168. For hair-waving reagents, hair lotions, cosmetics (other than toilet preparations) and dentifrices (3).

"THYMYPTOLIC"; by the Zirol Chemical Co., Ltd., Shaftesbury; 667,265-66. For dentifrices (3); for pharmaceutical preparations (5).

"Sure Shield"; by Thos. Guest & Co., Ltd., Manchester; 660,104. "RADOSENE"; by Clay & Abraham, Ltd., Liverpoel; 663,012. "Atomite"; by C. A. Critchley & Co., Ltd., Blackburn; 663,439. "V.L." in circular shape; by Vitamins, Ltd., London, W.6; B663,534.

"Rota-Spiron"; by Wallace (Pharmaceutical Products), Ltd., London, N.W.3; 663,579.

"Albert E. Firth M.K." in square (letters "M.K." disclaimed); by Albert Ernest Firth, Shipley; 664,598. For pharmaceutical preparations (5).

"HEMO-PAK"; by Johnson & Johnson (Great Britain), Ltd., Slough; B665,047. For surgical

dressings (5).

"Bacrocil"; by the Wellcome Foundation, Ltd.,
London, N.W.1; 665,143. For all goods (5).

"METAPLAST"; by Metaplast Co., Incorporated, New York; 662,760. For surgical, dental and veterinary instruments and apparatus and parts thereof (10), 662,768. For brushes and combs (21).

(21).

"HALDONS"; by Osborne, Garrett & Co., Ltd., London, W.1; B663,820. For combs (21).

"SPLOSH"; by London Rubber Co., London, E.4; 664,772. For sponges and brushes (21).

"VANESSA"; by Searchlight Products, London, E.C.2; 667,021. For brushes and combs, mirror and proving rests. (21) and manicure sets (21).
(From the "Trade Marks Journal,"

"AQUANORIT," December 22, 1948) "BENZONORIT" and " Sorbo-NORIT''; by Naamlooze Vennootschap Algemeene Norit Mattschappij, Amsterdam; 611,178-80. For active carbons (1).

"ONE O'TOBY'S" and device of Toby jug (words "One O'Toby's" disclaimed); by Toby (Chemicals), Ltd., Leeds, 1; 651,586. For agricul-

tural and horticultural chemicals (1).

"AMYLOZYME"; by Norman Evans & Rais, Ltd. Manchester; B665,054. For enzymes for con verting starch and flour into syrups for use i the manufacture of farinaceous foods, and fo destroying starches in fruit juices (1).

"Musc Zibata"; by L. Givaudan et Cie, S.A. Vernier; 666,017. For musk preparations for

use in perfumery manufacture (1).
"Technichrome"; by Technicolor Motion Pieture Corporation, Hollywood; 666,179. For ser sitised films, paper and plates (1)

"GREGULOID"; by H. A. Gregory & Co., Ltd London, N.6; 666,477. For industrial chemics

(1).

COMING EVENTS

Items must be received not later than first post on Wednesday of the week of insertion.

Monday, January 3

WEST KENT BRANCH, PHARMACEUTICAL SOCIET Central Library Hall, Beckenham, at 8 p.1 Film, "Intravenous Pentothal Anæsthesia," pr sented by Abbott Laboratories, Ltd.

Tuesday, January 4

BIRMINGHAM BRANCH, PHARMACEUTICAL SOCIET Grand Hotel, Birmingham, at 8 p.m. W. H. Willott, Ph.C. (Chance Bros., Ltd.), Glass Manufacture."

NORTH LONDON PHARMACEUTICAL ASSOCIATION AS NORTH METROPOLITAN BRANCH, NATIONAL PHAMACEUTICAL UNION, Beale's Restaurant, Hollow Road, London, N.7, at 7.45 p.m. Mr. G. Mallinson on "Remarkable Results of the National Union Company of the National Company of th Mallinson on "Remar National Health Service."

Wednesday, January 5

BLACKPOOL BRANCH, PHARMACEUTICAL SOCIE (JUNIOR SECTION), St. Peter's Church Schoroom, Lytham Road, Blackpool, 3.30-6.30 p. Children's party (names of children to be sto Miss L. I. Anderson, Corbiere, Normoss Ros. Newton, Blackpool).

SOUTH-WEST LONDON CHEMISTS' ASSOCIATION, A dington Rooms, Clapham Junction, Londe S.W.I. Dinner and New Year party. Recepti 5.45-6.30 p.m. Tickets 15s. 6d. each.

Wallasey Pharmacists' Association, Hotel V toria, New Brighton, 8 p.m.-1 a.m. New Y dance. Tickets 13s. 6d. each.

Thursday, January 6

BRISTOL BRANCH, PHARMACEUTICAL SOCIETY, Maborough Room, Grand Hotel, Broad Stre Bristol, at 7.15 p.m. Address by Mr. H. Hirst (a member of the Society's Council).

HUDDERSFIELD BRANCH, PHARMACEUTICAL SOCIE Pack Horse Hotel, Kirkgate, Huddersfield, 7.30 p.m. Mr. L. V. Allen, Ph.C. (Evans Me cal Supplies, Ltd.), on "Modern Emulsify Agents"; and film, "Take Thou."

Park Library, Romtord Road, London, E. 7-11 p.m. New Year party. Tickets (pr 3s. 6d. each) from Mr. W. H. Cloud, 45 Lo bridge Road, Barking, Essex.

BLACKPOOL BRANCH, PHARMACEUTICAL SOCII (JUNIOR SECTION), is holding a dinner and pa at the Euston Private Hotel, Blackpool, on W nesday, January 26. Tickets (price 8s. 6d. ea from Miss L. I. Anderson (for address see abo

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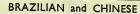
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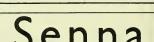
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